

Bird-Lore

A BI-MONTHLY MAGAZINE
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XXVI

JULY—AUGUST, 1924

No. 4

Birds and Man

By FRANK M. CHAPMAN

An address delivered in Washington, D. C., May 22, 1924, before the National Conference on Recreation called by President Coolidge

THE myths and legends of primitive peoples no less than the literature of our own day reflect the remarkable, one may even say the mysterious influence which at all times birds have had on the mind of man.

An endless variety of feathered forms enter into the superstitions and ceremonials of savages. The Stork brings us into the world and at the call of the Owl we leave it. We make war beneath the ægis of the Eagle, and the Dove bears our emblem of peace; while everyone has intimate relations with those 'little birds' which tell us things we are not supposed to know!

Moses advocated bird-protection; Solomon marked the season by the time of the singing of birds. Aristophanes, four hundred years before Christ, wrote: "But of late birds are the fashion; birds are all in all. Our modes of life are grown to be mere copies of birds' habits." Hudson's pages sing with the melodies of birds, and Thornton Burgess puts our children to sleep with bedtime stories of Blue Jay and Chickadee.

We may say that the birds' appeal is made through their beauty of plumage, sweetness of voice, their intelligence, grace of motion and space-defying mastery of the air, but there will still remain an elusive something which bespeaks a closer relation between bird and man than is revealed by our zoölogical classification.

I can give no ornithological reason for the belief, but for my part I am confident that everyone is born with a bird in his heart. Whether this implies a line of descent from some avian ancestor or whether it is the gift of forbears who lived nearer to nature than we do today, the fact remains that we all have an inherent interest in bird-life which needs only to be aroused and developed to become a potent bond between us and nature, and an uplifting influence of inestimable value.

When Izaak Walton, after describing the songs of the Skylark, Thrush and Nightingale, said, "Lord, what music hast Thou provided for the saints in

Heaven when Thou affordest bad men such music on earth?" he was but giving voice to the bird within him.

When Burns wrote, "I never hear the loud, solitary whistle of the curlew in a summer noon, or the wild mixing cadence of a troop of gray plovers in an autumnal morning, without feeling an elevation of soul like the enthusiasm of devotion and poetry," he paid just tribute to the power of birds' songs. Burroughs, on hearing, at evening, the solemn chant of the Hermit Thrush, writes in almost similar vein of that "serene exaltation of sentiment" of which "music, literature and religion are but the faint types and symbols." And Emerson gave expression to that sympathy with birds which has so often been the inspiration of poets, when he wrote,

Beloved of children, bards and spring,
O Birds your perfect virtues bring:
Your forms, your songs, your rhythmic flight,
Your manners for the heart's delight.

How now, to quote again from Emerson, may we "come at these enchantments"? how may we make the acquaintance of the potential bird within us? Our existing relations to birds may be grouped under the four heads: Science, Sport, Commerce, and Sentiment.

Science reveals, classifies, explains, coördinates, informs, and instructs. It is true that the savage learned his bird-lore without a textbook, but just as the age of education has succeeded the age of ignorance, so the bird-lover of today demands statements founded on observation, not on superstition, and the most glowing appreciation of bird-life fails of its mark if it be founded on error. I believe, therefore, it is demonstrable that our fast-growing realization of the beauty and value of birds is founded largely on the work of scientific ornithologists, whose influence as a body began to be effective in this country with the founding of the American Ornithologists' Union in 1883.

It was at the suggestion of the Union that our Government established a bureau for the study of the economic relations of birds—now the Biological Survey.

It is to members of the Union that we owe the formation of the Audubon Society, the first and the most effective organization in America for the protection of birds and the dissemination of information concerning them.

So I enter a plea for the encouragement of the technical researches of the scientist which, to the layman, often seem so futile, but which in the aggregate are of such basic importance.

There is, however, one branch of scientific ornithology, the value of which is so obvious that no excuse is needed for its pursuit. This is the study of the food habits of birds. In this field, thanks to Federal and, to a lesser degree, state support, the United States stands preëminent.

The ear that is deaf to bird-song, the hardened heart that holds only a

fossil bird embryo, may still be reached by an appeal to that sense of profit and loss that rarely atrophies.

When the voter and the lawmaker learn that the stomach of a single Cedar-bird contained 100 canker worms, that one Cuckoo had eaten 250 tent-caterpillars when disturbed in the midst of a meal, that 454 plant-lice were found in the stomach of a Chickadee, that a Flicker had devoured 1,000 chinch bugs, that a Scarlet Tanager was seen to eat 630 gypsy moth caterpillars in 18 minutes, or at the rate of 2,100 an hour, and that a Maryland Yellow-throat ate 3,500 plant-lice in 40 minutes, they are apt to sit up and take notice!

Thanks to the researches of economic ornithologists, we are now in possession of a mass of data concerning the food of birds, proving beyond question their incalculable value as the destroyers of weed seeds and as Nature's check upon the undue increase of injurious insects and noxious rodents.

There may be, there are, occasions when man himself so disturbs nature's finely balanced interrelation of organism with environment that a normally useful bird becomes harmful. We invite Nuthatches and Chickadees to our food-shelves, but we protest when the Robins take our berries or cherries and Kingfishers visit our fish-pools, but how are these unwelcome visitors to know that they, too, are not invited guests?

While I believe that no question of sentiment should prevent due justice being meted out to bird offenders, I hope that this body will protest against the wholesale condemnation of any bird without due consideration of its merits, as well as of its demerits. A verdict should not be pronounced by the plaintiff; give the accused a hearing before the 'Federal Court' of the Biological Survey. Then we may accept whatever decision is handed down with the assurance that it is based on adequate evidence and an unbiased, expert estimate of it, not from a local, but from a national viewpoint.

When we learn that some five million hunting licenses are annually issued in this country, chiefly to hunters of water-fowl, Quail, and Grouse, we get some conception of the demand which sport makes on bird-life.

The person who attempts to explain how the sportsman may thrill to the music of Bob-white in the spring and joyfully kill him in the fall sets himself no easy task. Birds, to quote again from Izaak Walton, are both "useful and pleasant to mankind . . . They both feed and refresh him; feed him with their choice bodies and refresh him with their heavenly voices," a statement which quaintly but clearly expresses the dual nature of imperfect man.

In England not only game-birds, but Plovers' eggs and even the bodies of Skylarks are still sold for food, but the fact that in this country the sale of all wild birds is prohibited is an indication of our gradually changing attitude toward bird-life. If one may predicate the evolution of a race from the development of the individual, the day will come when we will all get more pleasure from intimate association with birds than we do now in hunting them. How many men we know have laid aside the gun for the field-glass and camera.

Witness, for example, the transformation of a Jack Miner from a market hunter to a zealous conservationist.

Meantime let us take human nature as we find it and in the light of his unequalled record as a bird-protector, place our assets in game-birds in the hands of the sportsman knowing that he, more than anyone else, is concerned in their conservation. To sportsmen chiefly we owe the existence of the Federal Migratory Bird Law, the most effective legislation of its kind ever enacted; and if we will stand behind the sportsman in his efforts to improve and enforce protective measures, to establish sanctuaries and game refuges, we may be assured of the continued existence of the birds which are his special wards.

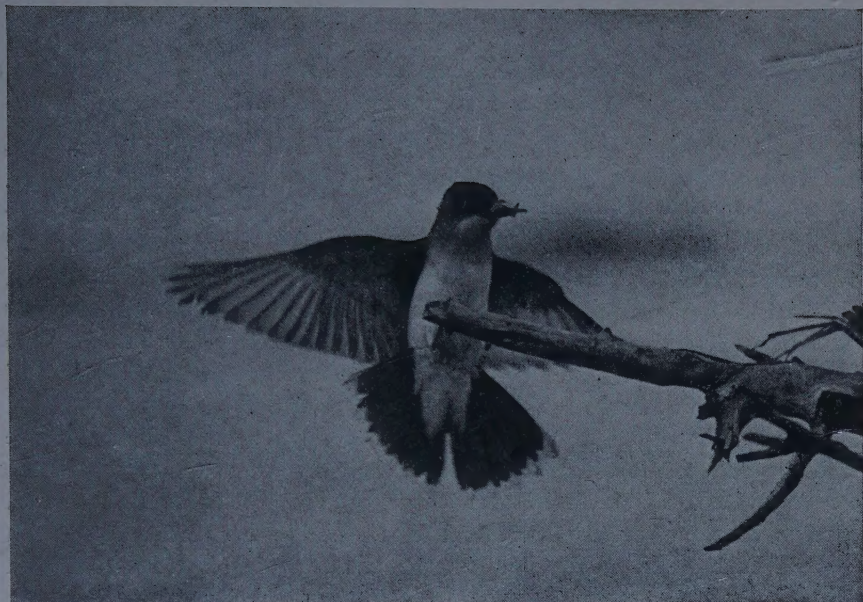
Time permits me only to mention here the bloody history of the bird in commerce as the greed of man and vanity of woman has brought species after species to the verge of extermination. Beginning with the day when a dawning desire for decoration prompted savages to wear feathers, mankind has waged a World War against birds for their plumage. On the American front, thanks primarily to the Audubon Society, the enemy is held in check, but we must remain under arms. In other parts of the world the battle is still on, and, as in another crisis we sent our forces overseas, so we should now assist our allied conservationists, who less fortunate than we, have still been unable to stop the wanton and disastrous traffic in the feathers of birds.

And, finally, I speak of the sentiment of ornithology; of the bird not as a specimen to be dissected and classified, not as our efficient co-worker in garden, field and forest, not as a creature to be hunted in sport or killed for its plumage, but as the most eloquent expression of Nature's beauty, joy, and freedom.

The clarion *honk* of migrating Geese wedging their way to parts unknown, the call of the Loon on lonely mountain lake, the sunrise carol of the Robin on our lawn, the evening hymn of the Hermit Thrush in the cathedral of the hemlocks, "Do you ne'er think of what wondrous beings these?"

How clearly their notes express the sentiment of the season, place or hour! How eagerly the bird in our heart responds to them! I will base no argument for their protection on the character of their food. I should resent an inquiry as to their economic status. Do we ask of a statue how many bugs it can devour before we accord it a place in our parks or galleries? Why, then, should our plea for the continued existence of creatures infinitely more attractive than the most perfect product of the sculptor's chisel be based on an analysis of their stomach contents?

And so, Mr. Chairman, I commend to you and your associates the cause of Citizen Bird, with a hope that you may secure for him that consideration from man which science, sport, and sentiment acclaim he so well deserves.



RETURNING WITH FOOD



A KINGBIRD FAMILY

Photographed by Dr. Frank N. Wilson, Ann Arbor, Mich.

The Rewards of Bird-Banding

By JOHN A. GILLESPIE, Glenolden, Pa.

THE bird-lover in his wanderings through field and woodland is unconsciously on the lookout for the homes of his feathered companions. He simply cannot help it! And the thrill he experiences in gazing at the tiny naked fledglings, who possess none of the good looks of their parents, is seldom if ever dulled by time. As he watches these blind, ugly little youngsters, necks outstretched and mouths gaping in eager anticipation, he may wonder if it is possible that within a month they will have acquired the handsome plumage of their parents, and, no longer dependent on them for 'daily bread,' soon start on their journey southward to a sunnier clime.

I say 'southward,' but bird-banding is beginning to throw light on the migratory movements of the birds, and already some unexpected facts have been discovered. The United States Department of Agriculture Bulletin No. 1145, "Migration Records from Wild Ducks and Other Birds Banded in the Salt Lake Valley, Utah," shows that instead of going directly south the majority of these birds migrated to the west or to the east, in the latter case eventually turning south into Texas. Another line of flight was to the northeast, and in some cases returns of these birds were received from Canada!

Let us now return to the hungry youngsters in the nest. We wonder at their growth and the manner in which their plumage changes from day to day. Then comes the time when, on approaching the nest, we find it empty. Occasionally we may find a fledgling close by, but as a rule they are nowhere in sight nor are they heard; and there remains of the happy little family only a memory. But hold on just a moment! The bird-bander takes exception to this statement. I will give an instance or two by way of explanation. I was fortunate enough this past summer to stumble upon the nest of a dapper Maryland Yellow-throat and his wife. One might almost take this statement literally, for if the mother bird had not flown up from beneath my feet I might have trodden on the little home. Her cry of warning informed me that her nest was close at hand. I found it readily, with five eggs; one, considerably larger than the rest, the gift of a shirking Cowbird. This egg I removed from the nest. The other four were duly hatched and a week later I banded the youngsters. Two days later I visited the nest and found it empty. Could the fledglings possibly have flown so soon? Or was that large white cat I had chased several times from the vicinity of the nest responsible for their absence? For several days I searched for the young birds high and low, but though I saw adult Yellow-throats, there was no sign of a fledgling. Had this occurred prior to my banding work I would have dismissed the incident as another of the many tragedies of bird-life. Five weeks later, to my surprise and joy, I ran across three of the youngsters near the site of their home. Two whisked away

before I could raise my glasses. The third was more obliging and sat there long enough for me to spy his shining band. None but a bird-bander can imagine the thrill I experienced.

Here is another instance. A pair of Crested Flycatchers selected for their nest a piece of hollow fence post which I had nailed to the side of our house. It was placed about four feet above the ground and within a few feet of a window from which we watched the five husky youngsters from the day they hatched until they flew away. Just before their departure four of the five were banded, but the fifth had mysteriously disappeared that morning. The neighbor's cat was accused, for she had been seen beneath the nest, attracted no doubt by the clear little whistles. But she was innocent this time, for all five fledglings were accounted for in the trees near by that same afternoon. The following night we experienced a very severe thunderstorm. Rain fell in torrents all night, and how the wind blew! Naturally our thoughts were with the young Flycatchers. Had they survived the storm? Everyone knows that the first few days following the departure of fledglings from the nest are the



A CRESTED FLYCATCHER AT ITS NEST

crucial ones. We wondered if the parent Flycatchers had found their babies a well-sheltered spot, protected from wind and rain. If these birds had not been banded, we would never have known if they survived. But a search of the woods the following day answered our doubts. There on a bough some fifteen feet above the ground, huddled close together, sat three young Flycatchers with

bands showing plainly. In an adjoining tree sat their brother and sister (maybe) one with and the other without a shining bracelet. For several weeks we had no difficulty in locating them in the woods, and the last sight of one was over a month after they had left the nest, when a Flycatcher, full grown and capable of 'catching' his own breakfast, paused for a moment on a near-by bough, enabling me to see his band in the sunlight.

When a bird is banded he ceases to be just a Flycatcher, a Catbird, a Robin. He is now an individual, whether he continues on his journey, spends the winter with us, or raises his brood in our neighborhood. In the latter two cases, in all probability, a bird will reenter the traps again and again; and before long one gets to know his 'number' before reading it, by his characteristic actions while in the trap or some peculiar mannerisms. I have in mind a White-throated Sparrow who



TUFTED TITMOUSE RELUCTANT TO LEAVE

has paid me a dozen or so visits. Invariably I know him as soon as I approach the trap. Why this is so I cannot say, unless I recognize him by his non-chalant manner. Then there was a certain Catbird who visited me frequently. For ten successive days he entered the same trap, sometimes four times during one day. When I came to release him he would sit perfectly still, showing no sign of fear; and as he had a broad, bare spot on his crown I knew him at sight, and seldom took the trouble to look at his number. When I

opened the door he would fly to a bush a few feet away, turn about and seem to say, "Meow, you're not so much!"

Some birds seem to be more 'high strung' than others, but after such birds have been captured a few times they become much tamer and no longer act frightened. When two or more birds are captured in a trap at the same time, it is quite obvious to the bander which is a new bird and which is a 'repeat.' The former is usually quite nervous and may chirp for assistance, while the banded bird is generally more quiet and shows no fear. He realizes, no doubt, that he will soon regain his liberty and be none the worse for this temporary confinement.

In the field also the banded bird displays less fear of mankind. A group of about fifteen White-throats has been spending the winter in the vicinity. I judge I have made the acquaintance of ten of them. When encountering these birds in my walks to and from the traps, I notice that the ones not banded are flushed the quickest, while the banded birds perch quietly in the bushes, their bands showing conspicuously, as they 'seep' to one another, "He's harmless!" Is it expecting too much to think of the birds of the next generation as being on more friendly terms with man than at present, because of universal bird-banding?

What a treat it is, now and then, to run across old acquaintances. I have in mind a Winter Wren which I banded early last fall; since then during my walks I have seen him at least six times. Song Sparrows quite often pause long enough for me to see their bands; and while I do not know just what individuals they are, my interest is not dulled, in fact it is quickened in the hope that they may be birds banded during a previous season, or possibly banded by some one else in New York State, Massachusetts, or even Canada. Some one has said that anticipation is fifty per cent of realization. This certainly applies to bird-banding; and, furthermore, by persistent effort the bander is certain to realize some of his anticipations.

Every bird-lover looks forward to seeing the birds as they pass in migrating, while the bird-bander not only enjoys the return of the various Sparrows, Thrushes and Warblers, but is constantly on the lookout for his old friends, banded in preceding years. I had almost given up hope of meeting some of the White-throats I banded last winter, for January had come and I had not yet recaptured any of the old White-throat acquaintances. Then there came a sharp drop in the temperature one Sunday, and I was busy all day long with the birds who visited the traps for food. There were Song Sparrows, White-throats, Juncos, one Purple Finch (minus the purple), Tufted Titmice, and one White-breasted Nuthatch. Practically all were old pals of mine with the exception of the Purple Finch and two White-throats. They had come for the food, but not because it was the only available supply, since most of them had been already captured three or more times during mild weather when there was plenty of their natural food. One White-throat was paying me his fifth visit and one Titmouse his seventh!

It was growing dark when I made my final inspection of the traps to be sure

no birds would be left in them over night. I found one White-throat and was not surprised to see that he wore a band. I looked at the number on his band before releasing him. Then I scrutinized it more carefully, for the number did not seem familiar. Could this be a bird some one else had banded or was it one I handled a year ago? I dashed for the house and eagerly consulted my record file. Yes, he was one of 'my birds' and had been banded a year and two months before. My records showed he was captured in November the first time, then had 'repeated' in January and April. The last time he had worn his bright spring plumage, while during the preceding visits he had worn his duller winter costume. Now he was back again at the *same spot* after having no doubt raised a happy family in—where shall I say? Possibly in the mountain regions of Pennsylvania, but in this instance I hope it was in Canada. As if to show that he bore me no ill will, the White-throat paid me another visit a week later, this time during the day when I could carefully examine and admire him. It was interesting to compare his adult plumage with the description in my notes telling how he appeared over a year ago, 'small, dull and streaked, evidently a bird of the year.'

There is real satisfaction in banding birds. Not only from the enjoyment one experiences in handling the various species, noting the birds' actions, their varying plumage, and having many of them return again and again, but also in knowing that at the same time one is assisting the Government in its research work. Most of us realize that birds deserve the best protection we can give them. Does it then not stand to reason that the more we know about them—how long they live, where they go, how fast they travel, etc.—the better we will be able to provide for their needs and plan for their protection?



SHARP-TAILED GROUSE ON NEST
Photographed by S. S. Stansell, Provost, Alberta, Canada



A FLICKER FAMILY

Photographed by William Gratwick in the Genesee Valley, Livingston County, New York

On the Migration Habits of the Starling

By H. E. EWING, Takoma Park, Md.

STARLINGS appeared at Takoma Park, Md., and Washington, D. C., in enormous fall migration flocks during the months of September and October (1923). For a few seasons they have been associating to a certain extent with other birds at roosting-time, but this year they came by the thousands to the temporary fall roosts of the Purple Grackles. Grackles in this vicinity are in the habit of establishing one big roosting-place during the early fall maneuvers previous to their southward flight. Here they collect in multitudes at nighttime, while in the daytime they forage the country for some miles about. Last year, according to Dr. C. W. Richmond, of the United States National Museum, the Washington Zoölogical Park was the place of their choice. This year, for the first time in several years, they chose Takoma Park.

Here the Grackles were observed in numbers running into the thousands by the early part of October. These flocks were at first almost entirely free from Starlings. The largest flock of all was observed for a considerable time one day in the early part of October, and although the writer watched most carefully the birds flying from the roosting-place, not a single Starling was observed. A few days later a relatively small number of Starlings were seen in trees adjoining those of the Blackbirds. As the month of October advanced the Starlings continued to arrive in larger and larger numbers until at last they far outnumbered their Grackle associates.

Having read of the appearance of the Starling in enormous migration flocks associated with Blackbirds last year in some other sections of the country, it was decided to ascertain, if possible, the following points in regard to the Starling-Grackle association: First, the nature of the association of the Starlings with the Grackles; second, the origin of this association; and third, the elements in the behavior of the Starling that might give rise to the habit of association with the Grackles during migration.

In order to settle the first point, the birds were watched and studied as they came to their roosting-places in the afternoon. By this method it was observed that the flocks came in from their feeding-grounds pure or almost so. On the afternoon of October 30 the first flock to arrive at a certain favorite roosting-place selected for observation was a flock of 5 Grackles. These came in at 4.30 o'clock P.M. At 4.38 one Grackle arrived; in less than a minute another; then a flock of 14 Starlings; next 3 Starlings and a Grackle. At 4.44 a flock of 60 Starlings (the numbers are estimated); a minute later another flock of Starlings of equal size; then followed, Starlings 60, Grackles 70. At 4.47 the birds were frightened and all left the trees. From this time on until dark the incoming flocks became more mixed, and when darkness came most of them were mixed. The birds were frightened from their roost several times, and when this happened the flock thus leaving was mixed, as it included the additions of several incoming flocks.

The preponderance in numbers of the Starlings on this date (October 30) is indicated by the following figures relative to the flocks observed alighting in the clump of trees:

Number of flocks of pure Starlings observed	18
Number of flocks of pure Grackles observed	2
Number of mixed flocks observed	17

It should be added also that the Starling flocks were much larger than the Grackle flocks and in the case of mixed flocks almost invariably predominated.

These observations show that the flocks were coming in from their feeding-grounds almost pure. That they usually separated during the daytime was further indicated by the observations of Dr. Alexander Wetmore, of the Biological Survey, who reported seeing an enormous flock estimated at 5,000 feeding in a corn-field near Takoma Park. The largest flock of pure Starlings observed by the writer on October 30 was estimated at 800.

While the enormous flocks did not come to Takoma Park as such, but were built up largely by new additions over a period of nearly a month, all birds left suddenly and at the same time. A cold spell which started late in October and brought a heavy frost on the night of October 31 caused the visitors suddenly to depart. They were last heard by the writer at midnight, October 31, when they attracted his attention by their chorus of confused and squeaky chatter. The next day and the following day not a bird was seen about the roosting-places.

It appeared from these observations that the Grackles first established a roosting-place, possibly places, in the town. Following this, the aggressive Starlings in small flocks took up their roosting-places in the same trees. More Grackles arrived, but many more Starlings. Finally the Starlings greatly predominated, and after this predominance tended to express themselves, or rather their social and migratory instincts, more unreservedly. This resulted in them segregating and breaking away when in search for food. Yet a peculiar bond of attraction seemed to exist between the two bird species, for when they left, they left as one.

In regard to the origin of the immense commingled flocks of Starlings and Grackles: They were built up from small flocks, such as are seen late in the summer or early in the fall in any community where the two birds are found. They were built up by the Starlings roosting for the first time in places where they had never roosted before, but roosting only in such places as they found occupied by Grackles. The initiative in the whole matter lay with the Grackles which gathered first, but in a manner which had been followed by their ancestors for countless generations before. Without the Grackles, the Starlings were not observed to roost in immense flocks.

The psychic or instinctive phenomenon involved in this migratory association of the Starlings with the Grackles is one which offers a wide field for speculation. One might think that racially or collectively they have simply

learned by imitation of the Grackles, similar in a way to the manner young chicks learn by imitation of their mother. Yet to the writer a different explanation suggests itself.

First, the American representatives of the Starling have inherited a migratory instinct from their European ancestry. This instinct has been surging to express itself, but in our country has not done so because of either an individual ignorance or racial ignorance of any migratory route. That the species is imitative of other birds even to a high degree as regards its vocal attainments is granted, yet it has another habit which might have more easily induced its migration—an insatiable desire or instinctive impulse to associate itself with other birds. This fact has been commented upon by many and is easily observed. If there are several nesting-sites available for a pair of Starlings, and another site occupied by some other bird species, the Starlings will contend with these birds and attempt to force them to vacate rather than take up an unoccupied site for themselves. These observations suggest that this desire to associate themselves with other birds has, in the case of associations with Grackles, released their latent instinct to migrate. First they chose to roost, not by themselves, but where the Grackles roosted. Being frightened from the roost, all birds, both Starlings and Grackles, flew away together; but at evening, after feeding, the Starlings again searched the previous roosting-places or others first established by the Grackles. When induced by cold to leave a community, the two species went together.



A BARN SWALLOW'S NEST SEEN FROM ABOVE
Photographed by H. H. Pittman, Wauchope, Saskatchewan, Canada

Meal-Time in the Dogwoods

By MRS. H. J. TAYLOR, Sioux City, Iowa

FIVE miles from Sioux City, Iowa, on the Dakota side, where the Big Sioux River empties into the Missouri, stands the shack where I have spent the last sixteen summers. A wonderful American elm, more than a hundred years old, spreads its sheltering arms over the little building which consists mainly of a screened porch 32 feet by 8 feet, two dressing-rooms, and a lean-to for a kitchen. It is set in an acre of blue grass with various kinds of trees and shrubs scattered about. This is 'Ambleside,' so named by the children sixteen years ago. Three hundred feet of river front form the eastern boundary of Ambleside. The golf course of the Sioux City Boat Club bounds it on the south and west. The northern boundary is a thick line of trees and shrubs intertwined with wild grapevine.

My observations on birds feeding in two large dogwood bushes, whose berries ripen in late August, may be of interest to others as they have been to me; the bushes stand about fifteen feet from the screened porch. I will give the observations of the year 1916 because of the many Bluebirds that nested about us that year; later many more came here for their departure.

From late July and through August fifty to a hundred Bluebirds could be seen almost any day in a walk through the golf links and skirting woods, most of these birds being immature. On August 24 my notes record two hundred Bluebirds in a group of four solitary trees on the golf links, and for the next two weeks such numbers were seen frequently.

The dogwood berries ripen late in August and in a week or ten days all the fruit is eaten. The feeding times are 6 A.M. to 7.30 A.M. and 3.30 to 4.10 P.M., the time varying but little, except that on dark or cloudy days it is a little later both morning and afternoon. On August 25 and 26 several birds came to the bushes, but the berries were not ripe.

August 27. Weather fair and warm. Between 6 A.M. and 7.30 A.M. the following birds came to eat: 2 Robins, 1 Yellow-shafted Flicker, 1 Red-headed Woodpecker, 3 Bluebirds. About the same birds came at 3.50 P.M.

August 28. Weather fair and warm. 6 A.M. to 7 A.M.: 8 Robins, 4 Flickers, 3 Brown Thrashers, 3 Blue Jays, 15 Bluebirds, 2 Warbling Vireos. 3.45 to 4.10 P.M.: 25 Bluebirds, 6 Robins, 4 Brown Thrashers, 3 Blue Jays, 8 Red-headed Woodpeckers, 5 Rose-breasted Grosbeaks, 1 Baltimore Oriole, 3 Downy Woodpeckers (these ate no berries).

August 29. 5.35 A.M. to 6.45 A.M.: 18 Flickers, 8 Red-heads, 2 Brown Thrashers, 45 Bluebirds, 3 Blue Jays, 8 Rose-breasted Grosbeaks, 8 Robins, 4 Black-cap Chickadees (these ate no berries). 3.55 P.M. to 4.10 P.M.: 15 Flickers, 6 Red-heads, 4 Brown Thrashers, 40 Bluebirds, 8 Robins, 2 Warbling Vireos, 6 Chickadees (these ate no berries). At 9 A.M. a flock of thirty-five Bluebirds came and ate. The birds did not eat many of the berries at a time, often only two or three.

August 30. Weather cloudy. Much of the fruit is gone. 6.30 A.M. to 8 A.M.: 8 Flickers, 4 Red-heads, 4 Brown Thrashers, 43 Bluebirds, 4 Chickadees (these ate no berries), 12 Robins, 1 Warbling Vireo. 4 P.M. to 4.20 P.M.: Still cloudy. 10 Flickers, 2 Red-heads, 1 Brown Thrasher, 50 Bluebirds, 1 Warbling Vireo, 2 Catbirds. The birds seemed to flit in and out today, taking just a berry or two.

August 31. Weather misty, changing to light rain. 7.30 A.M. to 8.30 A.M.: 20 Bluebirds, 4 Red-heads, 2 Blue Jays, 2 Catbirds, 8 Flickers, 4 Brown Thrashers, 2 Robins. 4 P.M. to 4.15 P.M.: 25 Bluebirds, 2 Red-heads, 1 Blue Jay, 4 Catbirds, 6 Flickers, 3 Brown Thrashers. The berries are scarce now.

September 1. Weather not clear till 8 A.M. 6.30 A.M. to 8.30 A.M.: 64 Bluebirds, 2 Blue Jays, 7 Brown Thrashers, 17 Robins, 13 Flickers, 5 Catbirds, 7 Wood Pewees, 2 Kingbirds, 1 Downy and 3 Chickadees (these ate no berries). The bushes were stripped of all fruit after this breakfast, yet at 3.55 P.M. about the same number and kinds of birds came for less than five minutes and flew away.

September 2. 6.25 A.M.: 2 Robins, 2 Red-heads. 4 P.M.: 4 Robins, 2 Red-heads, 1 Catbird. The birds flitted about. There was no food.

September 3. Not a bird came for breakfast or supper.

September 4, 5, and 6. No birds came to feed.

September 7. A bright, warm, quiet day. Three of us sat on the porch. It was 4.30 P.M. when there was a sudden whirl of wings and a flock of thirty-two Bluebirds flew into the dogwood bushes. They were followed immediately by another similar flock, then a few scattered ones, and in rapid succession 2 Baltimore Orioles, 4 Catbirds, 1 Rose-breasted Grosbeak, 3 Wood Pewees, 12 Flickers, 15 to 18 House Wrens. It seemed as if a Bluebird with uplifted wings were balancing on every twig. The bright western sun made this a memorable scene. The Bluebirds flew out almost as a unit, some of them, or others, returning and sitting again on the twigs, but in less than fifteen minutes every bird had gone. Not a bird returned until another summer brought forth its generous supply of berries.



The Migration of North American Birds

SECOND SERIES

XXV. BROAD-BILLED, RIVOLI, AND BLUE-THROATED HUMMINGBIRDS

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

BROAD-BILLED HUMMINGBIRD

The **Broad-billed Hummingbird** (*Cynanthus latirostris*) is one of the most beautiful but also one of the least known of the North American Hummingbirds. It is found in summer in central and northern Mexico and in southern Arizona, north to Nuevo Leon and to the Santa Catalina Mountains, Arizona; west to the Mexican States of Sonora, Jalisco, Colima, and Michoacan; south to Guerrero and Mexico; east to Vera Cruz and western Tamaulipas. It is only a summer resident in Arizona, and winters at least in the southern part of its breeding range. It arrives in the Santa Catalina Mountains, Arizona, early in April, the fifth of this month being the earliest recorded date. It departs from Arizona early in September—from the middle to the last of the month.

RIVOLI'S HUMMINGBIRD

The **Rivoli's Hummingbird** (*Eugenes fulgens*) breeds in the mountains of Central America and Mexico, north to Tamaulipas, southwestern New Mexico, and southern Arizona; west to Chihuahua, Durango, Jalisco, and Michoacan; south to Oaxaca, Guatemala, and Nicaragua; east to Vera Cruz and San Luis Potosi. It winters in the southern part of its range, north at least to central Mexico. In the United States and northern Mexico it is thus only a summer resident. The few definite dates of migration available are given below:

SPRING MIGRATION

LOCALITY	Number of years' record	Average date of arrival	Earliest date of arrival
Tombstone, Arizona.....	2	May 12	May 9, 1912
Huachuca Mountains, Arizona	2	April 25	April 24, 1902

BLUE-THROATED HUMMINGBIRD

The Blue-throated Hummingbird as a species inhabits Mexico and the extreme southwestern United States. It is divided into two subspecies, the ranges of which are as follows:

The typical **Blue-throated Hummingbird** (*Cyanolaemus clemenciae clemenciae*) is a resident in northeastern, central and southern Mexico, extending north to central Nuevo Leon, Zacatecas, and Durango, west to Jalisco, south to Michoacan and Oaxaca, and east to Vera Cruz.

The **Northern Blue-throated Hummingbird** (*Cyanolaemus clemenciae bessophilus*), inhabits parts of the southwestern United States and northern Mexico, breeding north to the Santa Catalina, Chiricahua, Huachuca, and Santa Rita Mountains in southeastern Arizona, the San Luis Mountains in southwestern New Mexico, and the Chisos Mountains in central western Texas, and south to the Sierra Madre of the State of Chihuahua, Mexico. It winters south to Vera Cruz in southeastern Mexico. This bird is only a summer resident in the United States, where it arrives late in April or early in May. Definite dates of its movements are few, but two years' observations by Mr. F. C. Willard, at Tucson, Arizona, show its arrival there on April 23, 1911, and April 21, 1912. It leaves the United States in late September or early October.

Notes on the Plumage of North American Birds

SEVENTIETH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

Broad-billed Hummingbird (*Cynanthus latirostris*; Fig. 1, top row).—The male in juvenal plumage (central figure) is much like the female, but has a patch of purplish blue feathers in the center of the throat, and the back is margined with rusty. I have seen only one specimen intermediate between this plumage and that of the adult. It was taken in the Santa Catalina Mountains, Arizona, in August. The adult male evidently wears the same colors throughout the year, since specimens taken in midwinter resemble those taken in midsummer.

The young female is like her mother, but is more rusty above.

Rivoli's Hummingbird (*Eugenes fulgens*; Fig. 2, central row).—Males in juvenal plumage resemble the female, but I have yet to see one without at least three or four green feathers in the throat, and as many more purple ones in the crown. From this condition to that of the wholly adult male with its full purple crown, glittering green throat, and velvet-black breast, our collection has a number of specimens in intermediate stages of plumage indicating that the adult dress is not acquired, at least by every individual, the first year.

There is but little difference between young and old females, the former having the upper parts narrowly margined with buffy.

Blue-throated Hummingbird (*Cyanolaemus clemenciae*; Fig. 3, lower row).—There is but little color change with age in this species. Young males have blue throats, much as in the adult, and are to be distinguished from it chiefly by their more bronzy, grayish margined upper parts. Young females differ from their mother in much the same way that young males differ from old ones.

Notes from Field and Study

A Home-made Bird-Bath

If you want bird neighbors, a sure way to attract them is to have a bird-bath. We made one in our yard last summer and it was liberally patronized. We made the form for the bowl in the ground, choosing a level place and marking out a ring two feet in diameter and then scooping out the center, in bowl shape, to the depth of about five or six inches.

Get two strips of tin or galvanized iron, three inches wide and forty inches long; wire these together, in hoop shape, to make the top support for your bowl by pounding down into your earthen form, using a spirit-level to make sure it is level on top. We lined the inside of the form with clay, as this could be made very smooth and even, and in the bottom of the form we drove a piece of gas pipe about eight inches long, driven in so that the top came to about three inches from the top of the form. Loosen the pipe a little so it will readily come out of the ground when you take your finished bowl out.



A HOME-MADE BIRD-BATH

As an extra precaution we lined the inside of the form with heavy waxed paper, cut in pie-shaped strips so it would lie smoothly. Mix the cement in the proportions of one part of cement to two of sand. Fill the form and after a few minutes scoop out the center to make the bath, two inches in the center and tapering to within two inches of the edge. It can be worked very smooth with a big iron spoon. Let this set for a few days to harden and then carefully lift out and turn bottom up, peel off the paper and let the bowl dry out a little on the under side. [The pipe will project from the bottom of the bowl and is for extra support when the pedestal is attached.]

For the pedestal form we got a piece of corrugated roofing, 27 x 36 inches in size, oiled the inside well, bent it into cylindrical form and bound in three places with heavy wire to hold it in place. Make sure that your inverted bowl stands straight and then place the cylinder on top. Use a little clay on the outside of the cylinder where it rests on the under side of bowl, to stop up any little cracks where the cement might run through, and then fill the cylinder with cement. You can use a good many small stones in making the mixture for the pedestal, being careful to keep them in the center away from the corrugation, as it fills up much faster that way. After two or three days remove the cylinder from pedestal, dig a hole about a foot and a half deep, fill in with stones to within 10 inches from the top, put in a little cement and invert your bath, letting the pedestal stand about 10 inches in the cement on the stone foundation and fill in with stones and cement to the top of the ground.

Now make a wooden form 14 inches square and 3 inches high around the base of the pedestal and fill this with cement. You may have to steady the bath a little until the cement at the base begins to harden. When all is completed, make a thin paste of cement with a little sand, and with a stiff paint brush paint over the whole surface and this will fill

in little imperfections and smooth out the whole bath. Take my word for it, the birds will love it.—MRS. DELANCEY G. BURBANK, *North Adams, Mass.*

Leaving the Nest

Do the parent birds choose the time for their babes to leave the nest, or do the youngsters decide the matter for themselves? My observations have pointed in both directions.

During the last two days, before a family of young Wrens flew, the old bird seemed to push them back into their house when they stretched their heads far out of the entrance. Finally, very early one morning, they were coaxed out of the nesting-box by having an unusually large green worm held before them. We have noticed other similar incidents.

On the other hand, we saw a baby Robin take its first flight while both old birds were away; and I have always supposed that the young Thrasher mentioned below must have flown without asking the advice of its parents.

One afternoon, after an exceedingly hot dry spell, the sky became suddenly overcast with heavy clouds. The air was very sultry, and it was evident that a storm of unusual severity would soon be upon us. A pair of Brown Thrashers had built a nest in a plum tree not far from the house, and the four young ones were getting too large for the nest.

Just as the first lightning began to streak across the sky, and the distant thunder to rumble, we noticed that one of the baby Thrashers was on the ground not far from the nest. Here was trouble indeed! It seemed to us a frightful thing, that its first hour out of the nest should be at this inauspicious time.

The old birds seemed anxious too. One of them fed it, and coaxed it under some raspberry canes, then flew back to the plum tree, just as the storm broke. A regular tempest of wind drove the rain in sheets, the trees bowed, the house shook, the lightning flashed incessantly through the darkened sky, and the thunder crashed continually. It seemed as if all frail things must perish in that fearful tempest, especially that tender, unprotected baby bird.

We stood watching at the window, and as

soon as the violence of the wind had abated slightly, one of the old birds flew out into the pouring rain, secured some kind of insect and began flying near the ground, back and forth before the chump of raspberry canes, peering in to find the baby bird. The anxiety of the old bird was very evident, and we, who were watching, shared its joy and relief when the young one was discovered still alive, and was fed and comforted.

During the next day, which was pleasant, the other young Thrashers left the nest, but it was several days before they could fly. The parents hid them in clumps of grass and low bushes.

I was so fortunate as to see the mother bird giving one of the little ones a lesson. Of course she did not know she was being observed. After feeding the baby, she stood before it for some time, moving her wings up and down, evidently showing it how to fly. It did not seem to comprehend, so the patient little mother fed it once more, hid it away again, then went to the place where another hungry youngster was waiting for dinner.—ETTA M. MORSE, *Woonsocket, S. Dak.*

Holbøll's Grebe in Central Park

On March 15, as we approached the Reservoir in Central Park, New York City, we noticed a very large bird in the center of the lake. It was identified as a Holbøll's Grebe. It was probably living on a few small fish which inhabit the Reservoir. The bird was pointed out to Mr. Hix, of the Linnaean Society, who is entirely familiar with this species. The Grebe stayed on the Reservoir for about two weeks. This species is casual in Central Park, there being only one other record for it. Toward the end of its stay it began to get very restless.—VICTOR ROSEN, *New York City.*

Tame Black Ducks

The wild Black Ducks nest along the shores of Dry Pond in the town of Gray, Maine. There were several different broods in the summer of 1923 and they were so tame they would eat from one's hand. White bread seemed to be the only food they cared for.



TAME WILD DUCKS

Needless to say they were protected there and soon learned where they were safe. Often a mother Duck and her brood would line up along the shore and with their heads tucked under their wings take a nap and sun-bath. In that position they can hardly be distinguished from the round rocks along the shore, but at such times one of them always acts as sentinel.

The pictures were taken in September, 1923. They are simply snap-shots, with no attachment on the camera.—MRS. ROBERT E. RANDALL, *Freeport, Maine*.

A Snowy Heron in a Snowstorm

Mr. A. O'D. Taylor, of Newport, R. I., reports that on the morning of April 1, 1924, during the heavy snow storm which at that time prevailed over a wide area, a Snowy Heron was found dead on the piazza of the home of Mr. Charles A. Hall of that city. The bird was an adult in breeding plumage with fully developed 'aigrette' plumes. It has been mounted and presented by Mr. Taylor to the Children's Museum of Newport.

Turkey Buzzard in Cayuga County, N. Y.

While with my friend, F. S. Wright, of Auburn, who was collecting specimens at

Holland's Island, in northern Cayuga County, on May 19, 1923, a large bird sailed in great circles overhead, and I identified it as the Turkey Vulture, a fine mature bird, with its red head and bare neck. Identification was possible even without my eight-power binoculars, but the glasses brought the bird within perfect view. Mr. Wright told me he had never seen one before and that it was his first record in Cayuga County, and I was surprised the other day to find that he had never made any report other than to note it in his own list. As I have been familiar with this bird in Orange County, N. Y., where I lived for many years, the appearance of the Turkey Vulture here confirms the report in Eaton's "Birds of New York" of this bird being found in the "warmer portions of the western part of the State."—FRANCIS B. ROBINSON, *Auburn N. Y.*

Red-headed Woodpecker in New York City

Understanding that the Red-headed Woodpecker (*Melanerpes erythrocephalus*) is a rare spring or summer visitor to New York and district, the writer felt that you would be interested to learn that he observed a single bird of this species on May 14, at about

3 P.M. in the lower part of Audubon Cemetery, New York.

The afternoon being dull, the light was not good, but with a pair of Zeiss military glasses, magnification six times, an excellent view was obtained of this very beautiful bird. During a careful observation of about twenty minutes, the bird made no sound of any kind, and with one or two exceptions, where it pecked a little at the tree, seemed to stay on the same branch in a watchful attitude.—GEORGE JOHNSON JERVIS, *New York City*.

Pileated Woodpecker in Oklahoma

I read in the last number of BIRD-LORE that Pileated Woodpeckers have been seen in Ohio in increasing numbers. This spring I have seen two, one about 10 miles north of Muskogee on the Verdigris River, and the other about 20 miles east of Muskogee. These are the first I have seen in nearly twenty-five years. I thought you might be interested in this information, as it may indicate that this handsome bird is increasing.—GRANT FOREMAN, *Muskogee, Okla.*

Kingbirds on Long Island

In 1888 my father first settled on our present home site. It was then a somewhat unbroken, rough pasturage half a mile from the main highways and nearest neighbors. Natural hedges of wild-cherry trees along old line-fences were everywhere and rank growth of several species of goldenrods filled the borders during the closing of the summer and fall with splendor. They gave natural windbreaks to man and abundant shelter and feeding-places to the simple bird life throughout the winter. Fresh still in memory are those early days when the Bob-whites called from the ivy-covered posts of the old division lines, and we found their tunneled nests in the tall couch-grass and dewberry brambles where the close-clipped lawn now stands.

Three very large wild-cherry trees stood on the northern boundary of the grounds on our arrival, in the top of one of which a pair of Kingbirds nested the first summer. For several following seasons they returned and

reared a brood in one of these great trees, but in the course of several years the trees were destroyed by various agencies. The Kingbirds then selected the tallest of the orchard trees.

The wild cherries are gone, the old line-fences are gone, and the Bob-whites are gone. But year after year a pair of Kingbirds return each May and carefully select a nesting-tree. Every tree on the homestead has been used—some thrice over.

In all those thirty-five summers the Kingbirds have not failed once to bring off a full brood. Yet in the entire period there has never been a second pair breeding on the premises, or to my knowledge, making any attempt to nest within the limits of the yard.—ROY LATHAM, *Orient, L. I.*

Chimney Swifts at Bedtime

About 75 feet from the window of my laboratory there is an unused chimney, some 40 feet high, with a flue said to be 3 feet square. On the evening of October 4, last, as Dr. E. R. Clark and I were leaving the Medical School, our attention was called to a large flock of Chimney Swifts which was making use of the chimney as a lodging-place for the night. While we were watching them, Dr. Clark remarked that the Swifts were entering the chimney at the rate of about 15 per second. Others of us who were watching thought that this estimate was a conservative one. I had not looked at my watch when they began to enter, but did look soon after, and made the estimate that the flock was about 15 minutes entering the chimney. The beginning and ending of entry were abrupt. While the flock was entering, they flew in a counter-clockwise circle.

The following evening I watched the performance from my window and made the following notes: October 5, 6.5 P.M.: Sky overcast; large numbers of Swifts in the upper air; look like swarm of bees; general direction of flight in circle, counter-clockwise. 6.7: A few began to enter the chimney, when a passing auto frightened them for a short time. 6.8: Entering again, average probably not far from 15 per second, at times many more than this; circling continuously counter-

clockwise. As the circle approaches the chimney, a column of Swifts, from a point some 20 feet above the level of the top of the chimney descends to the chimney. The Swifts in this column which fail to enter continue the circle at a lower level, joining the higher level at the opposite side of the circle, and in a position which makes them contributing parts of the descending column, when they again come to that point. Great swarms of Swifts could be seen in the upper air, their paths apparently crossing and recrossing, but really all flying in circular paths at different levels. Many appeared as minute specks in the upper air. At 6.23 all were in, stopping abruptly; probably no more than a dozen stragglers in the last 5 seconds. It thus took the flock a little over 15 minutes to enter the chimney.

October 8, 6.12 P.M.: Sky clear; 3 or 4 Swifts seen from window. 6.13: 12 or more Swifts in sight. 6.15: 100, more or less, in sight. 6.15: 20: 500, more or less, in sight. 6.16: Increasing in numbers rapidly; general course in wide circles, counter-clockwise. 6.17: Seem to be enjoying themselves too much to go to bed; immense numbers; upper air full of them. 6.19: 20: Getting closer to chimney; some of them dipping down to within a foot or two of the top. 6.20: Changed their minds for a few seconds; again enjoying themselves in the air. 6.21: Getting closer again. 6.21: 30: Changed minds again. 6.22: 30: Look as if they were getting ready to go to bed. 6.23: Getting closer; circles variable, 150 to 200 feet in diameter nearest level of top of chimney, lower portion, at times, possibly no more than 50 feet in diameter. 6.23: 30: Passing near top of chimney. 6.24: Passing very close to top of chimney. 6.24: 30: A few going in. 6.24: 40: Entering at rate of 15 or more per second. Same maneuvers as on previous evenings. 6.25: 30: Going in very rapidly; 15 per second a very conservative estimate. 6.28: A second or two when they did not go in so rapidly, being disturbed by the puffing of a locomotive on the Georgia Railroad near by. 6.28: 30: Going in as rapidly as ever. 6.30: All in; stopped suddenly. They appeared to be going in much more rapidly than on evenings when observed before. The flock entered in about 5

minutes and 30 seconds. So far as one could tell, where such vast numbers were concerned, the flock was as large as on the previous evenings. Either they had become more expert in entering the chimney, or a part of the flock had continued its migration southward. No further record was kept. They were gone in a few days.—EDWIN LINTON, *Augusta, Ga.*

Starlings in Ontario

Mr. R. Owen Merriman, President of the Hamilton Bird Protection Society, has asked me to report to you what we believe to be the first appearance of Starlings in this city. Two of these birds have been noticed about our garden, which is just three blocks from the main corner of the city, for about three or four weeks.

Although one day I got a good look at one from in front and below, so as to see its black breast and yellow bill quite distinctly, it was not till January 10, 1923, that I was able thoroughly to observe one from above and with a side view. It was eating an apple still hanging to the tree; and, from a distance of 15 feet, I could distinctly see the yellow bill, the black head with dark cheek and eye, the speckled back and wings, and the short tail, so that I have now no doubt of its identity. I may add that during this autumn and winter, Starlings have been reported from Port Dover and London to the south and west of here.—CALVIN MCQUESTEN, *Hamilton, Ont.*

A Banded Evening Grosbeak

On the morning of April 17, 1924, while watching a flock of Evening Grosbeaks at my back door, which I have been feeding since the last of December, I saw that one of them had on an aluminum leg-band. This was the first wild bird that I had ever seen sporting a leg-band and I was quite excited about it. There are thirty to thirty-five of the Grosbeaks in the flock and they have quite lately become so tame that at the early morning feeding, 6 A.M., they will come down almost at my feet. I feed them sunflower seeds and they have eaten about 100 pounds so far this season. Two years ago we had a

large flock, forty-five at times, and they came daily from the last week in December till May 20.

A peculiar thing about them is that, in all these months, they have never come in the afternoon. An occasional stray one has come as late as 2 P.M., but this is so unusual as to occasion comment.

The bird that has the leg-band is a grey one; the band is on the right leg and appears to be of aluminum, about $\frac{3}{16}$ inch in width. Have any of BIRD-LORE'S readers banded Evening Grosbeaks?—B. F. BALL, *Oakville, Conn.*

A Purple Martin Rest

Inclosed is photograph of a resting-place which I have made for Purple Martins. Several birds which nest in the houses shown in the background can be seen perching on it. It is 20 feet high and the ladder-like nests extend out almost three feet from the nest-box at the top of the pole.—O. M. BRYENS, *McMillan, Mich.*



A MARTIN REST

Photographed by Hazel M. Bryens

An Undiscouraged Chipping Sparrow

A Chipping Sparrow built its nest low down on a limb of a white pine tree near our home. One morning after a severe wind

storm I found the nest blown down and all but one of the eggs crushed on the ground. I replaced the nest on the limb and placed the one egg in it. The next day the bird had laid a second egg in the nest. That night we had another severe wind storm, the nest was blown loose and turned over and the eggs were thrown to the ground. I again replaced the nest and the one egg that had survived the fall. Then I got a large darning needle and some black linen thread and sewed the nest fast to the surrounding limbs. The mother bird then laid three eggs in the nest and has had no accidents since.—CHARLES HAASE, M.D., *Elmira, N. Y.*

Vireo and Cowbird

During the second week of June, 1923, two Red-eyed Vireos were continuously going in and out of a small tree growing in front of the porch below my north window as if building there. But though the branches are only 5 or 6 feet away, I could discover no nest either from the window or from below. After that I did not see them again, or think of them until June 20. On that morning, about 3.30, I was awakened by calls of birds in distress and the sound of fluttering wings just outside my open window.

It was not yet fully daylight, but from the window I could see two small birds trying to drive away a larger one which was endeavoring to reach a certain point in the branches some 4 feet above the porch. The larger bird was successful. It presently flew down to the porch carrying something which it first pecked and then devoured, throwing back its head to swallow it in one voracious gulp after which it flew out of sight and I left the window.

However, before I could get to sleep, I heard the same disturbance recurring. It was now daylight and I could clearly distinguish three birds—my pair of Vireos and a marauding Cowbird. The Vireos fought bravely, but could not repel the interloper. She flew down a second time with the object in her beak, now plainly recognized as a Vireo's egg, and had begun to demolish that likewise when I frightened her and she left it lying there broken. Later in the morning we

went out and found the nest so well concealed that it was invisible from any direction until we cut a few leaves away.

It was a beautiful nest entirely covered with white webs from spider's nests. It still held three eggs—one Vireo's egg, an ordinary Cowbird's egg, and a third one hardly larger than the Vireo's. We took out the large egg and found both that and the broken Vireo's egg to be partially incubated. The small Cowbird's egg we left with the unbroken Vireo egg, fearing the old birds might desert their nest if but one egg remained in it.

A few days later, awakened again by bird notes—though this time happy ones—I reached the window just in time to see the male Vireo feeding his mate. For some days he arrived at short intervals, always bringing food and as invariably announcing himself, so that I often saw him present it and heard their soft twitterings afterwards.

One morning she came off to sit beside him, and he made a long stay during which they appeared to be discussing some important matter. At last he put his head deep into the nest twice and they flew to the orchard together.

We wondered why she had not sometimes left her nest, as incubating birds usually do in such fine warm weather, and why he had fed her so often the last few days. When we found, on looking into the nest, a young Vireo already in the pinfeather stage beside the odd egg, we surmised that she had continued to sit in the hope of hatching that also. This undersized egg now had a round hole at one end for which we could not account, since it had been sound when we last had seen it; and inside was an almost fully developed bird, not long dead.

The Vireos had become so accustomed to seeing and hearing us that they were not disturbed by our talking at the window, nor did they go further away than the nearest branch when we looked into their nest.

The nestling grew rapidly and a few mornings later was seen sitting on the edge of the nest to be fed. Soon after noon it flew to a twig nearer the window and sat there all afternoon motionless, except for reversing its position occasionally when the parents were long away.

Towards night a niece came in looking for her two-year-old, and I said to her: "Your baby is more restless than the Vireo's, isn't he?" and showed her where it had been sitting for hours.

But next time I looked out the Vireo baby had also disobeyed and was out of sight. The mother came flying straight to that twig and looked surprised to find it empty. She flew across to the nest and peered into it, then hopped all over the tree searching as anxiously as any human mother for her missing child. She had all the time been carrying the large insect she had brought, but at last she dropped or swallowed it and began to call. In a few moments a faint answer came from a tree near by and I expected to see no more of them.

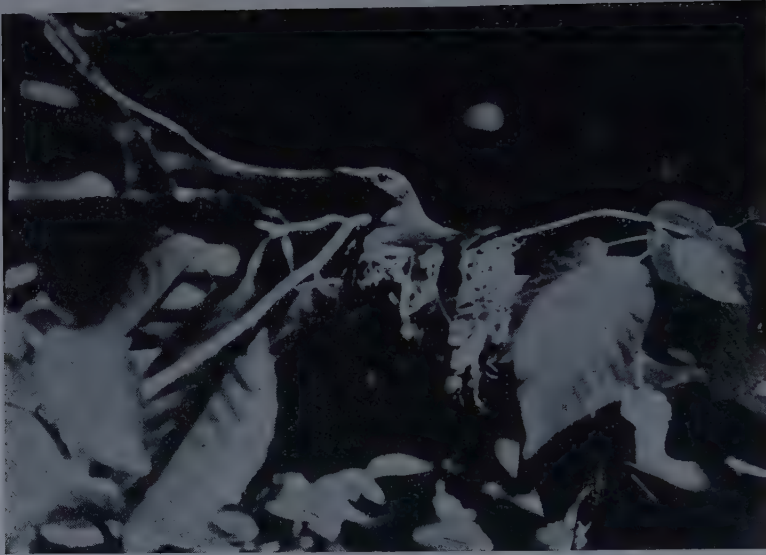
I had always been told that young birds never returned after leaving the nest; so, listening to the gale and the torrents of rain the following night, I wished the little creature I supposed was clinging to some swaying branch in that violent storm had been content to stay in its safe hanging home just one day longer.

Next morning as soon as the drenched foliage lifted enough to make it visible, I looked to see whether the pretty nest had been damaged, and there sat the mother Vireo with her little one safe under her wings. She must have brought it back after the storm clouds came up after twilight, for until then I had watched. All forenoon that little Red-eye had to stay in the nest and be fed; but when it was allowed, in the sunny afternoon, to go out into the world a second time, it did not return again.—RUTH F. NUTTING, *Benzonia, Mich.*

The Vireo's Song to Herself

To hear a Red-eyed Vireo sing something different from the regular "You see it—you know it," and continued preaching so well known to all who make it their pleasure to attend the song service of our eastern woodlands, is unusual. In fact, in twenty-five and more years' acquaintance with this species, nothing but 'the preacher's' usual delivery has come to the writer's attention.

On the forenoon of August 10, while



RED-EYED VIREO ON ITS NEST

picking my way through a section of low woodland where an old hen Partridge and her brood had been discovered six weeks before, the common song of the Red-eyed Vireo was noticed. Most of the summer birds had finished their nesting and were feeding and wandering about without even a suggestion of song, the morning doxology being apparently sufficient expression of thanksgiving. But as I stood attentive to the lone singer another selection became noticeable, as if from a Catbird in the distance. There was a faint softness that I could not account for, and following the direction of the medley, I had gone only a few steps before I caught sight of the singer. It was another Red-eye close by me leisurely searching twigs and leaves for insects. As it worked it gave forth this faint medley of song entirely different from the common song, nearly as rapid as the Catbird usually sings, and very similar.

As I watched and listened, another appeared, apparently the first Vireo I had heard, and as he entered the tree sheltering the faint singer, her song ceased and she darted at the intruder and pursuing him, vanished into the mysteries of the woods.

Who has heard the Red-eyed Vireo give

this song, and is the supposition that it was a female correct?—L. W. SMITH, *Wellesley Hills, Mass.*

The Nest of the Red-eyed Vireo

About June 1, a Red-eyed Vireo was seen energetically gathering bark for its nest, while its mate followed it meekly, but took no part in the proceedings. On June 5, the nest contained one Cowbird's egg. For several days the nest contained but the one egg, and I began to wonder whether the rightful owner had not been discouraged, but on June 9, at least four or five days after the completion of the nest, the first Vireo's egg was laid.

The trim, pendent nest of the Vireo, generally attached to the horizontal fork of a slender branch of a sapling between 3 and 8 feet from the ground, is constructed of shreds of bark, sometimes with small pieces of rotten wood or pulp intermingled, bound together with the white web of a caterpillar, and lined with bright russet pine needles. The rim and exterior are delicately decorated with folds of the white web. They are fluffy and easily come to pieces at first, particularly when wet, but harden with time,

and probably for this reason are built somewhat in advance.

Another nest, only 2 feet from the ground, contained on June 12 two eggs, and on June 14 a full set of four creamy white eggs, with a few scattered fine dark dots. Shy at first the sitting bird became in time very tame. After a few visits she resisted being pushed off the nest. Under the hot sunshine, which the bending of a few saplings temporarily shed on the nest, she would stand over the eggs, spreading her wings and tail and raising and lowering her feathers, particularly those of her head, to produce a circulation of air. When induced to leave so that I could photograph her, on returning to the nest she several times brought back folds of the white web, which she stuck on the outside of the nest. At other times she brought back insects, which she held in her bill several minutes (after she had settled on the eggs) before swallowing, uttering low, chirping calls. It was a very pretty and suggestive performance. We became so friendly and intimate that I finally took a spider out of her bill as she stood on a twig near the nest, her only move being to swing backward and hang upside down as I did so. It was indeed a pleasure to be held in such confidence.—F. N. WHITMAN, *Ithaca, N. Y.*

The Orange-crowned Warbler (*Vermivora celata*) Wintering on Staten Island

Our acquaintance with the Orange-crowned Warbler began when we discovered a single individual in the dense ornamental conifer groves of the Moravian Cemetery on Staten Island. On this date, December 25, 1923, the bird was seen by our father as well as ourselves. However, at the time, we were totally unaware of the characteristic habits and coloration of this species, but after searching the plates in Eaton's "Birds of New York," we came to the conclusion that the bird was an Orange-crowned Warbler.

The following day we visited the Museum to study the mounted birds, and recognized our bird immediately among the other *Vermivoras*. Armed with this knowledge we again visited the Moravian Cemetery, this time on January 2. After much careful

search we discovered the bird in a flock of about a dozen Chickadees.

This time we had an opportunity to view the bird at very close range as it was not at all shy, and we had little difficulty in approaching it within 10 feet. The day was unusually bright so we could view all the points with ease. The bird appeared fairly 'stocky' for a Warbler, more or less uniformly colored above and below, slightly yellower on the lower under parts. There was no eye-ring and no wing-bars, thus eliminating the Nashville and Pine Warblers. Needless to say we were both perfectly satisfied as to the correctness of the identification.

On February 9, practically a month later, we again had an opportunity to visit the conifer groves of the Cemetery. This time we had little difficulty in finding the bird with possibly the same flock of Chickadees, and again viewed it at close range. The bird called occasionally the note *tsik, tsik*. After looking at it for about a half-hour, we proceeded to view the other birds which were about. Late in the afternoon we happened to be passing the locality where we had seen the bird in the morning and there it was still, not 50 feet from where we had seen it that morning, still with the flock of Chickadees.

On March 8, which will be remembered by us as particularly raw and cold, with gales in the early morning and occasional 'squalls' of snow and hail, in the late afternoon, we again had occasion to visit the Cemetery.

We thoroughly scoured the conifers, but could not discover the Warbler; in fact there were hardly any birds in the conifers that day. A little later, after searching the conifers with little success, we decided to visit a small valley, in which a small brook overgrown with thorns and briars runs. This is situated just south of the southern end of the Cemetery.

Here birds were plentiful, Chickadees being especially numerous. In a flock of at least fifteen, we discovered one, and then, to our surprise, two Orange-crowns. They were both very low down in the brush, and once we had an opportunity to view both of the birds together, i.e., in the field of our binoculars, This time they were both

perched on the snow, not 10 feet from us. Indeed sometimes we had difficulty in focusing our binoculars at such close range! This was the last time we saw either of these birds.

After observing these birds so often, comparatively, there doesn't seem to be any reasonable doubt as to the correctness of the identification, even if we never viewed the birds before. Moreover, we were both acquainted with the rarity of the species and the importance of our observations.—JOHN and RICHARD KUERZI, *New York City*.

A Samaritan Robin

During the week commencing May 25, 1924, we noticed on several occasions what appeared to be an injured adult Robin in the yard about our home in Ridgewood. While on the ground the Robin behaved as though it had been injured in some way; when approached, the bird was able to fly, although apparently with difficulty. The injury appeared to be of such a nature as to prohibit it from hunting its own food.

On the morning of May 30 I was very much interested in seeing this same bird being fed by another Robin, not once but a number of times during the fifteen or twenty minutes that I was able to observe them. I should be glad to know whether this incident is unusual.—A. H. CARPENTER, *Ridgewood, N. J.*

Prothonotary Warbler at Collins, N. Y.

I wish to report my *first* Prothonotary Warbler, a male, seen May 22, 1924. I watched him for a half-hour, being very close to him, in low bushes. Then I telephoned others to come to see him. I have not heard of its being seen hereabouts, except that last year Mr. Thomas L. Borune saw one a few miles away. On the same day I saw the Cerulean and Wilson's Warblers, both uncommon here, especially the Cerulean.—ANNE E. PERKINS, *Collins, N. Y.*

A Robin Tragedy

My son, Merrill Wood, found a Robin which evidently had been salvaging a long

piece of cotton thread and became entangled in the branches of a bush, and in attempting to get free had fluttered until it became hopelessly ensnared. It then starved to death. The enclosed photograph tells the story and shows the tail damaged during the struggle.—HAROLD B. WOOD, *Bloomington, Ills.*



A ROBIN TRAGEDY

A Bluebird Mystery

One year we had a strange experience with our Bluebirds. For many years, they have nested in a box on the side of the veranda, or in the one on the apple tree near it. Usually it has been the tree-box. They had various tribulations because of English Sparrows that swarmed about them, and one year their eggs were thrown out, though they had kept watch, and bravely defended their home. They grew very jealous of the presence of not only English Sparrows, but of Wrens, Downy Woodpeckers, Tree Swallows, other Bluebirds, in fact, of any other bird that came near their box, or the box on a pole some 30 feet away. They allowed no birds to occupy that pole-box, or even to examine it.

When the apple tree died, and its branches were all taken down, leaving only the trunk, I put a box on an elm on the other side of my house for the Bluebirds. This was in August.

The next spring the Bluebirds returned and examined the apple-tree trunk persistently all over the upper part, evidently troubled at not finding their box. I tied a box to the top of the trunk and the next day, after many examinations by both birds, the nesting was begun in it. All went well, the young leaving the nest on June 10.

On June 12 we noticed a great ado about a nesting-place for the second brood. The parent birds examined, with much enthusiastic conversation and wing-waving, the box on the elm and then the one on the apple-tree trunk, these boxes being hidden from each other by my house. My records for June 18 show them still fussing about both boxes and furiously driving a Wren from the pole-box which is in sight from both of the others.

The rest of the story I take almost as worded in my notebook:

July 14. The Bluebirds have young old enough to be heard, in the elm box, but continue frequent visits to the apple-tree trunk box.

July 16. This morning those Bluebirds had a surprise for me. I heard baby voices in the box on the trunk of the apple tree! The male Bluebird was there and he went away with a sac. Soon we heard again the little voices (now grown stronger) in the box on the elm. The female Bluebird was at the box, and the male was on the shed roof, not far away. The parents each feed the young in each box, taking turns, though one sometimes goes to one box several times in succession. I can see but one male and one female Bluebird, and they are so jealous of the presence of any other box-using or hole-using birds of any kind, always including their own kind, that I feel sure there is but one pair, and that they are using both boxes to prevent the coming of other tenants.

July 18. At dusk there was a tussle near the elm nest, I think between two male Bluebirds. Both alighted on our house roof and then one went away. This is the first

time for a long while that I have seen two birds of either sex. Through the past years an extra Bluebird has sometimes appeared in our yard, only to meet with a strong offensive by our pair.

July 27. The young in the apple-trunk box begin to call *chur* (which, I have noticed, precedes departure from the nest) and to look out of the door.

July 28. The young in the box on the apple-trunk left today, and we heard them in the trees. The ones in the elm box must have left before, but that is not as easily seen from our windows, so I lost the date. Silence in both boxes now.

July 30. Today there was a peculiar song from Bluebird, and I found that he was having a fight with another male Bluebird, while his lady looked on. The extra male flew away and the other chased him. I have seen but one female here this year. One day she was at the apple-trunk box and a male Blue was on the top of the trunk; but there was a decided lack of cordiality in her attitude. I am convinced that both bird-boxes were used by one pair, and that this extra bird is an intruder.

November 1. The Bluebird mates have hovered about the box on the elm, and the one on the apple-tree trunk for some days. They act as if they were inexpressibly dear, lingering near them and looking inside with much loving conversation. Only one pair was seen during these days. Anyone who observes Bluebirds knows this habit of farewell visits to the home nest.

This is the record for 1919. Some of 1920 follow:

March 24. Our pair of Bluebirds is right here at the old home on the trunk of the apple tree.

March 28. The male Bluebird is visiting the box on the elm.

Early in April I closed the door of the elm box because a pair of English Sparrows were planning a home there. The Bluebirds nested in the box on the apple-tree trunk, and no other box on the place was used by any bird.

How these birds brooded the divided family, I don't know, but I am convinced that they did.—ELIZA F. MILLER, *Bethel, Vt.*

THE SEASON

Edited by J. T. NICHOLS

XLIV. April 15 to June 15, 1924

BOSTON REGION.—The spring has been cool and, for this region, rainy, an ideal season for the growth of vegetation, especially trees, but not a favorable one for the observation of the bird migration. There were no warm nights in which migrants hurry forward in a great rush. On the contrary, the movement toward the north was inconspicuous and appeared to be more steady than usual, coming to an end soon after the end of May. However, straggling birds were noted until the end of the period; for example, a late Olive-backed Thrush in song, and a Maryland Yellow-throat singing in an orchard, not yet on its breeding-ground at a time when local individuals of the species were occupied with nesting activities.

The Yellow Warbler is commoner here than it has been for several years, and an increase in the number of breeding Prairie Warblers is manifest both here in Lexington and to the south of Boston. As pointed out by Ralph Hoffman more than a dozen years ago in a weekly essay in the *Boston Transcript* the piercing note of a singing Prairie Warbler can be heard readily from a moving automobile. This fact makes it easy to keep track of this bird as it extends its range toward the north.

Locally, breeding birds are few this summer compared with recent years. The Red-eyed Vireo is breeding here in very small numbers and the Rose-breasted Grosbeak, a very common bird about Boston, is decidedly below its normal abundance.

In mid-May there were five days of almost steady rain with easterly wind, during which many birds which depend for food on flying insects died of starvation. There is now a marked diminution in our Chimney Swifts, and the colony of Tree Swallows which Mr. George Nelson has cared for during the past ten years was reduced during the storm to less than half the number which had returned to his boxes in the early spring. Away from the sea, 40 miles inland, Swifts are commoner

than in Lexington, and in the central part of the state I detected no decrease of normal numbers.

Miss Stockwell reports from Watertown two unusual ornithological records—two Red-headed Woodpeckers settled apparently for the summer, and, on May 20 (a remarkably late date) a Great Horned Owl.—WINSOR M. TYLER, *Lexington, Mass.*

NEW YORK REGION.—This period, wherein the trees come into leaf, showed a more even and gradual transition from spring to summer than is frequently the case; spring was not punctuated by warm summer-like days, and there was an abundance of rain, yet few unseasonable cool setbacks. The transient species moved through on time, and in full representation, though of some there seemed a paucity of individuals, and the 'waves' of migrants one associates with May were few and poorly marked. Such a late wave of unusual magnitude for June, in which Flycatchers were particularly prominent, occurred in the first few days of that month, but before June 10 rather less than the usual number of straggling Blackpoll Warblers and the like remained.

Local observers have been actively afield this spring. The observations of J. and R. Kuerzi contain various items of interest. In the Bronx Park section they report the Florida Gallinule at Hunt's Point (May 4, June 2) and Sora Rail at Van Cortlandt Park (April 22, 26, May 7), apparently breeding colonies in each case; a Wilson's Snipe on May 11 (late), and Lesser Yellow-legs with 2 Greater (May 19) at Hunt's Point; Indigo Bunting (April 30), Cape May Warbler (May 7) at Bronx Park, and Orchard Oriole (May 7) at Van Cortlandt (early); and Red-breasted Nuthatch at the Botanical Gardens, May 24 (late); a Blue-gray Gnatcatcher, Van Cortlandt Park (April 25); a Bronzed Grackle, Bronx Park (April 28), "absolutely identified a typical Bronzed Grackle with a Purple Grackle at close range in a brilliant

light." On Staten Island they report a Golden-crowned Kinglet, April 27 (late); at Overpeck Creek, a Red-backed Sandpiper, May 30 (first record for the Englewood, N. J., section).

R. F. Haulenbeek reports a Blue-headed Vireo near Newark May 22, a late date for New Jersey. A King Rail's nest is reported near Bayside, L. I. (W. H. Carr), the bird photographed on the nest. This is our first satisfactory nesting record for this uncommon and secretive bird. An interesting casual occurrence is that of a King Eider observed at Long Beach, L. I., June 1 (C. H. Rogers, E. R. P. Janvrin, and others), and still present on June 8, associated with about 60 White-winged Scoters. A White-crowned Sparrow at Mastic, L. I., April 20 (W. F. Eaton and J. T. Nichols), perhaps should be considered a casual early date, or it may be that this species, rare enough at any time, is more frequent in late April than definite reports would indicate.

W. F. Hendrickson writes of an unusual flight of shore-birds as follows: "My brother and I were at Freeport [L. I.] yesterday afternoon, went down the bay on a launch and saw a flight of Black-breasted Plover, Turnstones, and Least and Semi-palmated Sandpipers in such numbers that 'countless' is the only word to be applied. Going down the channel from Ellison's Dock, we could see Plover on the meadows and in the air all around us, and everywhere we looked there were large and small flocks, some containing from 100 to 200. When we got to the channel that runs inside of the beach we struck a flight coming in from toward the sea. Whether these birds were just coming in or just trading around I do not know, but it looked as though they were just coming in from the South. Flock after flock came in, mostly flying low to avoid the strong north-west wind, and it was one of the greatest sights I ever saw. These were mostly Plover, but some flocks were mixed with Turnstones. On a small bar, just becoming uncovered by the tide, there were probably 300 Turnstones, crowded together so that they looked like a solid mass, and when they flew the air seemed to be full of them."

Charles R. Weinberger has reported two

or three pairs of nesting Killdeer on the Hempstead plains, L. I.; eggs the first half of June, at which date we believe the young have ordinarily hatched.

Study of the Brewster's and Lawrence's Warbler by members of the Linnæan Society has been resumed from last summer. At Wyanokie, N. J., June 1, a male Lawrence's apparently mated with a Golden-wing was observed by R. H. Howland within a few hundred yards of where a bird of the year of this form had been noted in the summer of 1923 by Boulton and Carter; on June 15 there was presumably the same male Lawrence's singing near the same locality and also a nest with a Golden-wing sitting on five eggs. On June 18, Howland found these eggs just hatching but no trace of a male bird near this nest. However, about 300 yards beyond he came upon a Lawrence's mated with a female Golden-wing feeding young several days from the nest. Both parents and three young were banded. This is the first definite case known to us of a Lawrence's breeding with a Golden-wing. It is in a locality where both Golden-wing and Blue-wing breed, the former predominant. On June 14, Mr. and Mrs. Carter found the nest of Brewster's Warbler No. 48866, male, about 100 feet from his nest of 1922. Joined by Howland the following day they verified the number on his band, banded his mate, a typical Golden-wing, and five of their brood immediately after these had left the nest. This is the third consecutive year that the nest of this Brewster's Warbler has been found at the same station.

Incidentally, on May 30, a banded female Hooded Warbler (in company with a male) was observed by Carter within 100 feet of where such an adult female was feeding a young bird in 1923, and banded, strong evidence of the return of a female Warbler to the identical nesting station on consecutive years. The Nashville Warbler is at times recorded on the Wyanokie Census in early June, but at that date might still be in migration. However, on June 19, the same observer noted a male Nashville *tsip-ping* as though it had a nest, definite evidence for breeding locally.—J. T. NICHOLS, *New York, N. Y.*

PHILADELPHIA REGION.—If any more disagreeable weather ever occurred in this region for the same period, there is no record of it. May has been a month of almost continuous downpour, with cold northeast winds prevailing. From all indications up to the present, June will be equally wet and disagreeable. Farmers have suffered untold loss from the cold and persistent rains. Seeds of vegetables, such as beans, cantaloupes, cucumbers have rotted in the ground.

All the late April migrants—House Wrens, Brown Thrashers, Chimney Swifts, Barn and Tree Swallows appeared on schedule. A noteworthy number of Bluegray Gnatcatchers were reported at various points at this time.

While the cold must have caused a great deal of suffering, only one case has been brought to our attention. Mr. A. C. Potter, of Merchantville, found a Whip-poor-will so benumbed with cold that it was picked up without any resistance. After being warmed it quickly recovered and flew off.

The May Warbler migration was rather disappointing, there being few, if any, big waves when a large number of species were present. The migration as a whole was very much prolonged and extended into the first week in June. The outstanding features were the abundance of Worm-eating Warblers during the first two weeks of the month and the unusual number of Bay-breasted Warblers during the latter part of the month. At times they exceeded the familiar Blackpoll. Some idea may be gained of the number of species present at various times by the following lists, none of which are unusual as to totals: Glen Olden, Pa., May 4, 64 species, 14 of which were Warblers, Worm-eating and Hooded being the most noteworthy (Gillespie and Potter); Mt. Holly, N. J., May 11, 79 species, 13 of which were Warblers; 4 Siskins were observed on this occasion (Pumyea and Potter); New Lisbon, N. J., to Mt. Holly, N. J., May 18, by canoe, 79 species, 13 Warblers, Black-billed and Yellow-billed Cuckoos were exceptionally common, 1 Siskin observed (Pumyea and Potter).

Fish House, N. J., June 1, Magnolia Warbler, Bay-breasted Warbler, Black-

throated Green Warbler, Water Thrush, Canada Warbler, Olive-backed Thrush, Yellow-bellied Flycatcher were present. Very late migration dates were contributed by Mr. Gillespie, Glen Olden, Pa.: Magnolia Warbler, June 3; Blackburnian Warbler, June 4; Canada Warbler, June 5; Redstart, June 7 (resident?).

Migrant shore-birds were reported abundant along the coast the last week in May. Bonaparte Gulls, which are usually seen on the Delaware River here at Camden about mid-April, were not seen this spring until May 13, when 40 were observed. Four Double-crested Cormorants were seen sitting on piles along the Delaware River near Gloucester, N. J., at various times between May 13 and 25. A pair of Barn Owls, with seven young, found nesting under a floor in an old building May 13, near Gloucester, N. J., is of interest.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON (D. C.) REGION.—The months of April and May, 1924, brought to bird observers about Washington much of interest and some things rather out of the ordinary. Two circumstances were partly responsible for this—the continuous low temperature and the large number of rainy or partly rainy days. This abnormal weather, being more or less widespread in the eastern United States, had its most conspicuous ornithological effect on migration. This effect was manifested chiefly in the delayed arrival of a considerable number of birds and in the prolonged stay of several of the winter residents.

Of our regular migrants, at least twenty-three were from three to nineteen days late in arriving. Of these, fifteen were birds that ordinarily appear before May 1, and they were more delayed than the others. Some of those most delayed were the Purple Martin, which was first noted on April 7 (due March 29); Cowbird, April 7 (due March 19); Chipping Sparrow, April 2 (due March 22); House Wren, April 21 (due April 18); Blue-headed Vireo, April 24 (due April 18); Baltimore Oriole, May 6 (due May 1); Orchard Oriole, May 10 (due May 3); Ruby-throated Hummingbird, May 9 (due

May 2). The others included such species as the Black and White Warbler, Ovenbird, Pine Warbler, Prairie Warbler, Yellow-breasted Chat, Magnolia Warbler, Worm-eating Warbler, Blue-gray Gnatcatcher, Solitary Sandpiper, Indigo Bunting, and Nighthawk.

On the other hand, at least eleven regular migrants were from three to eight days ahead of their schedule, though for the most part these were represented only by venture-some pickets that pushed forward much in advance of the main detachment of the migratory army. Most of these belong to species that normally reach Washington before May 1. Most notable of these were the Whip-poor-will, which put in its appearance on April 10, though not due until April 18; Crested Flycatcher, observed April 21 (due April 28), nearly as early as its previously earliest record of April 19, 1914; Yellow-throated Warbler, April 11 (due April 18); Black-throated Green Warbler, April 24 (due April 29); Parula Warbler, April 20 (due April 24); Hooded Warbler, April 27 (due May 1); Black-throated Blue Warbler, April 27 (due May 1); and Gray-checked Thrush, May 7 (due May 11). Furthermore, the Canadian Warbler on May 6 was two days ahead of its schedule. In the case of two birds the previously earliest records were surpassed this spring. These are the Golden-winged Warbler, seen by Miss M. T. Cooke at Chain Bridge, D. C., on April 24, three days ahead of its previously earliest record of April 27, 1913; and the Traill Flycatcher, noted by the writer in the Zoölogical Park at Washington on May 7, one day earlier than its previous record of May 8, 1906.

Besides the inconspicuous movements that take place more or less continuously during the migration season, there were, this spring, several well-marked migration 'waves', which brought not only new arrivals but additional, even large numbers of other species. Between these waves there was, of course, recession of numbers as the birds passed on to the north. One of these waves covered the period from April 22 to 26, reaching its crest on April 25, and bringing, among others, the following new arrivals: Kingbird, Red-eyed Vireo, Yellow-throated

Vireo, Blue-headed Vireo, White-eyed Vireo, Scarlet Tanager, Catbird, House Wren, Wood Thrush, Ovenbird, Redstart, Golden-winged Warbler, Yellow Warbler, Black-throated Green Warbler, Black-throated Blue Warbler, Prairie Warbler, Hooded Warbler, and Northern Water Thrush.

Another wave appeared on May 2 to 6, bringing additional arrivals such as the Wood Pewee, Least Flycatcher, Acadian Flycatcher, Indigo Bunting, Olive-backed Thrush, Gray-checked Thrush, Nashville Warbler, Worm-eating Warbler, Black-poll Warbler, Cape May Warbler, Chestnut-sided Warbler, and Canadian Warbler, together with numbers of many other species, including the Myrtle Warbler, Black-throated Blue Warbler, Parula Warbler, Kentucky Warbler, and Redstart.

Still another wave, continuing from May 8 to 10, all cold, rainy days, again increased the number of species already present and brought a few more first arrivals—the Magnolia Warbler, Tennessee Warbler, and Ruby-throated Hummingbird. May 11 and 12 were also cold and rainy, but the weather cleared on the afternoon of May 12 and the following day was fair and very much warmer. A sudden departure of the majority of the individuals of many species, especially Warblers, took place on this date.

A less well-marked wave came on May 19 to 20, and consisted of migrant birds similar to those in previous waves. As late as May 28 considerable numbers of some transient species were still present.

The effect of the weather at Washington in holding back northern migrants was apparent in the late stay of several species—Tree Sparrow, last seen April 13, whereas it usually departs about March 27; the Ring-billed Gull, noted up to May 14 (average date of departure, April 21); the Herring Gull, seen May 14 (average last date, May 4); Bonaparte Gull, May 14 (usual last date, May 9); Red-breasted Nuthatch, May 14 (average date of departure, May 6); Purple Finch, May 14 (usual date of departure, May 8); and the Black Duck, May 14 (average date of departure, April 25, and latest occurrence in spring, May 18, 1920).

One bird broke its record for late lingering

in spring—the Whistling Swan, seen by Miss K. H. Stuart at Warwick, Va., on April 10.

The variation in abundance of birds this spring as compared with other years is interesting, but difficult of explanation. Among a considerable number that this year showed a decided increase over the normal are: Blue-gray Gnatcatcher, Blue-headed Vireo, Chestnut-sided Warbler, and Golden-winged Warbler.

Some species, on the other hand, were much less common than usual, and such of these as are summer residents remained so at least up to the date of writing (the last of May). In this category might be mentioned the Wood Pewee, Barn Swallow, Baltimore Oriole, Orchard Oriole, Wilson Thrush, Olive-backed Thrush, Bay-breasted Warbler, Nashville Warbler, and Tennessee Warbler.

A single individual of the Bronzed Grackle, which is by no means a common or regular bird at Washington, though possibly of more frequent occurrence than records indicate, was seen on May 20 on the grounds of the Department of Agriculture in the city of Washington. The Duck Hawk is another rare and irregular species in this region. One of these birds was seen flying over the grounds of the United States National Museum on May 15, this being, with one exception (May 22, 1918) its latest known spring occurrence. A Connecticut Warbler, another rarity, particularly in the spring, was seen by Miss K. H. Stuart at Arlington, Va., on May 19.

The Cedar Waxwings, that during March, with the assistance of some Robins, disposed of the holly berries on the trees in the grounds of the National Museum, appeared again on April 7 and 14, probably also on intervening dates, and regaled themselves on the berries of the sophora trees in the same grounds, and remained until they had practically exhausted this food supply.

A flock of more than fifteen Broad-winged Hawks was seen by Miss M. T. Cooke on migration, drifting northeastward on April 24 at Sycamore Island, Md. Migrant flocks of Hawks are not reported from this region as frequently as one would naturally expect from the large numbers that are known to

migrate along the Atlantic Coast, but it may be with these birds, as with many others, that their abundance on migration here is influenced by the fact that Washington is off the main route of north and south migration along the Atlantic coast.

The American Coot is not a very common bird in the vicinity of Washington, nor does it ordinarily appear in any considerable numbers, in view of which facts the two flocks seen by Mr. C. H. M. Barrett at Cherry Hill, Va.—one of 50 to 60 on May 19, and another of about 25 on May 25—are worthy of mention.

On the cold rainy morning of May 12, the writer saw, in a rose bush outside the front window of his house, five Warblers of as many different kinds—Black-throated Blue, Canadian, Parula, Golden-winged, and Red-start—assiduously seeking a breakfast of plant-lice. Such a remarkable and interesting sight attracted, for many minutes, considerable attention from more than one person.

Owing to the heavy rains and consequent high water in the Potomac River and its tributaries, the Anacostia River was on May 14 so high that it completely covered to a considerable depth all its bottom lands in the District of Columbia. This extraordinary situation not only attracted a number of water-birds, but made considerable difference in the behavior of some of the shore-birds that commonly frequent the borders of this stream. Many Bonaparte and Ring-billed Gulls were flying about, and with them three Black Terns, the last-named species unusual during spring about Washington. Shore-birds, such as the Greater and Lesser Yellow-legs, Killdeer, and Spotted Sandpiper, were seen flying about over the water or resting on the numerous patches of drift which consisted of rushes or small branches of trees. A flock of Tree Swallows in their exquisite plumage of white and steel-blue added a touch of color and of vivacity to a scene already full of interest for the ornithologist.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

PENSACOLA REGION.—An unusually cool spring, following the severest winter in many years, seems not to have delayed bird

migration. The first wave of migrants arrived and settled or passed on in March as usual, and the second wave, consisting largely of Warblers, began to appear about the third week in April. This season has given particularly rich returns in Warblers, the most interesting being the Blackburnian, which has never before been noted here by the writer during more than eight years of field-work.

This region is peculiarly situated with respect to the flight of migrants from Yucatan and Central America. Great numbers of little travelers reach this part of the coast every morning in spring at or just before dawn, after what should have been an exhausting all-night flight across the Gulf, but unless stopped by bad weather, they continue their flight about 50 miles inland before coming to rest. In bad weather, however—and there have been many early morning fogs and rains this season—they alight on the first land they reach. As a consequence, the live oaks and water oaks in the residence section of the city have been alive with brilliant Warblers many days this spring. The Black-throated Green Warbler was abundant during the last week of April; the Bay-breasted, a very rare visitor, was common from April 30 through May 2, and one was noted on May 4; a large number of Ovenbirds—a species noted only once before in spring and rare even in the fall—occupied a bushy vacant lot for several hours on April 30; many Veerys, a hitherto unnoted species, frequented the shady gardens and lawns on April 30 and May 1; the Redstart, a common fall migrant but noted only once before in spring, was present in small numbers from April 13 through May 15. The Scarlet Tanager, a rare but regular migrant, arrived on April 11—the earliest ever recorded—and stayed in small numbers until May 4. On May 7 the first Least Terns were noted.

It was expected that the departure of transients and winter visitants would be delayed on account of the unseasonably cool weather, but such was not the case, except with a very few species. Wilson's Snipe on May 4, Lesser Yellow-legs on May 25, Myrtle Warbler on April 30, and Ruby-crowned Kinglet on April 23 are the latest

records for these species in eight years of observation, but these are the only species in the period under consideration that over-stayed their usual dates of departure. White-throated Sparrows were more numerous in the city than in the surrounding country, staying until April 29—an unusually late date but not as late by one day as in the much milder season of 1923. The beautiful song of these Sparrows, a regular part of the winter music in most parts of the South, is seldom heard here except during the last few days of their sojourn.

The Lesser Scaup seems to be staying late in larger numbers every year. This year a flock of about 30, of both sexes, was seen daily on Big Bayou until well into June, and a few (possibly wounded birds) are still here.

Even the nesting season, except in the case of the Brown Thrasher, seems not to have been delayed by the cool weather. The Thrashers usually build in March and some few pairs have full complements of eggs laid by April 1, but this year the first nest was not found until early in May. Not a single Thrasher nest found so far this year has escaped destruction, though whether the Fish Crow, the black-snake, or the small boy is the most to blame cannot be stated. Nests of the Mourning Dove and of the Alabama Towhee with full complements of eggs were found on April 20, and of the Green Heron and the Florida Nighthawk on May 4—all being the earliest known breeding records for these species. A Cardinal's nest with well-grown young was found on May 4 and another with fresh eggs on June 8. Southern Blue Jays were well advanced with incubation by May 11. A colony of fourteen nests of the Least Tern was found on May 30, most of the nests containing two eggs each and a few having but one. Judging from the number of birds flying about, there were still other nests in prospect. This colony of Least Terns is the third known to exist on the islands bordering Pensacola Bay.

While inspecting the colony described above, a single Frigate Bird flew over. This species is a rare but regular visitor along the coast, having been noted in almost every month of the year. On the beach near the Tern colony, large flocks of Royal, Common,

and Black Terns were seen, all in full breeding plumage. Royal Terns, and possibly also Cabot's Terns, certainly breed near here, but the nesting-ground has so far eluded search. The same is also true of the Brown Pelican, which can be seen daily in small numbers fishing in the Gulf. Laughing Gulls in breeding plumage are common every summer and must certainly nest, but no information as to the location of such a colony can be obtained.

The breeding of the Alabama Towhee, *Pipilo e. canaster*, is of more than passing interest. Howell, in his 'Birds of Alabama,' mentions this form as breeding throughout that state and grading into the specific form, *P. e. erythrophthalmus*, in the northern counties. Here, in western Florida, it apparently grades into the Florida form, *P. e. alleni*, for a number of breeding-birds have been noted with decidedly straw-colored eyes instead of the clear red of *canaster*. As no specimens have been collected during the breeding season for positive identification, no definite statements can be made. Again, the nests here are built in the scrub saw palmetto from 1 to 3 feet from the ground, and none has ever been found on the ground as is stated to be the almost prevailing practice of typical *canaster*.—FRANCIS M. WESTON, JR., U. S. Naval Air Station, Pensacola, Fla.

The Editor welcomes the addition of Mr. Weston to our staff of 'Season' contributors. The locality in which he is situated is one of especial interest to all students of bird migration in eastern North America.—J. T. N.

PITTSBURGH REGION.—The lateness of the season has been apparent throughout western Pennsylvania; rains have been heavy and frequent, and until June the temperature was constantly much lower than that to which we are accustomed. This has apparently delayed not only the arrival of many migrants and summer residents, but it has noticeably retarded the nesting operations of some species.

In certain localities, Bluebirds have been unaccountably rare; about Bethany, W. Va., in orchards where they formerly nested

abundantly, not a single individual has been recorded. North and east of Pittsburgh they are somewhat commoner, however. Certain migrants have favored us with unusual numbers. Miss Lily Frederick observed an enormous flock of Purple Finches at Deer Creek on May 3. These birds were later observed also by O. C. Reiter. Some species of Warblers, appearing in waves, have been unusually abundant. Black-throated Green Warblers were very abundant during the first days of May; Blackburnian Warblers were abundant at about the same time. Somewhat later vast numbers of Bay-breasted Warblers appeared, and have been reported from several localities widely distant from each other, which indicates their general abundance. Messrs. Simpson and Grantquist, at Warren, state that they have never known Bay-breasted Warblers to be so common or so late in remaining. They are in hopes that the species may nest in their region. Indeed, occurrence so late as June 12 might seem to indicate that some pairs would stop short of their usual range to nest this year.

Although Mr. Fred Homer and I found Parula Warblers quite common in the State College region on May 25, this species has been rather rare this year, as have also the Worm-eating and Cape May, the last of which is usually rare in spring migration. White-throated Sparrows were present in usual numbers, but the White-crowns have been seen by very few observers. Slate-colored Juncos, observed at Warren by Messrs. Simpson and Grantquist, started nesting operations very late, whereas O. E. Jennings reports them with young birds (at virtually the same time) at Ligonier. Swamp Sparrows at Pymatuning Swamp, which Mr. Netting and I observed, were much behind last year's birds in their breeding activities. On May 31 nearly all nests found (13 altogether) were just completed, or with fresh eggs. The earlier nesters in that region, had apparently built their nests at the usual time, however, since they had fully fledged young flying about. This was true of such species as the Towhee, Red-winged Blackbird, etc. Virginia Rail nests were found with fresh eggs, however, and Long-

billed Marsh Wrens had not, apparently laid their eggs by June 1. We found 27 nests of this species (3 pairs of birds, so far as we could determine) and none with eggs.

Due more, possibly, to the recent increase of observation than to any other thing, members of the Audubon Society of Western Pennsylvania have recorded far more unusual species for the region this spring than is their wont.

Mr. Bayard Christy's record for Bachman's Sparrow (Patton's Point, Big Travis Creek, May 11) should possibly head the list, since it is one of our rarest species. We were all in hopes the bird would nest, but Mr. Christy did not find it upon his return the following week.

Loons, which were, possibly, merely 'stay-overs' and not migrants, have been recorded by Mr. Fred Homer (Sandy Lake, May 31, and June 15) and by Mr. Christy (Sewickley, June 16). The Black Tern was seen by Mr. Christy at Clinton Pond on May 18; also by Mr. Homer and myself at Jennerstown, May 25, and by Mr. Homer at Sandy Lake, May 31. Although the Least Bittern is not a particularly rare species, we are always glad to have it reported. Mr. Homer and I saw the species at Jennerstown, May 25, and I had the good fortune to find a nest with two eggs on June 14, at Sandy Lake. May reporters have found Green Heron nests, a notable record being that of Misses Helen Blair and Edith Reilly for Hartstown, May 31. Great interest has centered in the nesting of a Woodcock at Trafford City, on April 13. Many enthusiasts visited the nest. Mr. Louis Homer, of Greenville, captured two half-grown young of this species on June 14. The Bartramian Sandpiper has been reported only from Greenville by the Messrs. Homer. The Sharp-shinned Hawk has been seen only three times this year, but Mr. T. F. Walter just reports (June 14) a nest with four eggs, near Crafton. The Pigeon Hawk was seen by Mr. Christy on May 4 at Clinton, May 5 at Schenley Park by myself and the University of Pittsburgh Bird Class, and later (May 10) again at Frick's Woods, in Pittsburgh proper.

The Starling has been more common

wherever observed than previously, and about Pittsburgh it is becoming downright abundant locally, although they are most abundant, it seems, about State College.

Miss Helen Blair had the good fortune to find a Savannah Sparrow's nest with five eggs at Hartstown on May 31. On the same date, members of the party had good opportunity to become acquainted with the rare Olive-sided Flycatcher (4 recorded) as well as the smaller Alder Flycatcher.

In general it should be said that not as much attention is paid to the number of individuals of a species as should be. If we had accurate statements of the abundance of a species we could more definitely determine just when the height of migration occurs. Some of our members have not yet learned that it is more important *not* to see certain species at a given time than it is to see them. The desire for a big list too often leads to errors.—GEORGE MIKSCH SUTTON, *Statistical Secretary Audubon Society of Western Pennsylvania*.

OBERLIN (OHIO) REGION.—This period had been marked by an unusual amount of rainfall. Beginning the first week in May, there have been only a very few days during which some rain has not fallen. However, at present it looks as if a break may be coming for we are occasionally having a few fine days.

The migration, although behind its usual schedule, has progressed rapidly and has brought some interesting and rare birds into the region. The migration has been peculiar in that several birds which we are accustomed to find every spring have not been noted, while entirely unexpected birds have put in their appearance in numbers.

The seventh wave of the spring, appearing from April 22 to 27, brought nothing out of the ordinary, being composed of the Bank and Rough-winged Swallows, Louisiana Water-Thrush, Ovenbird, and Blue-winged Warblers, Catbird, Grasshopper Sparrow, Common and Caspian Terns, Sora and Virginia Rails, Yellow-legs and Solitary Sandpiper, Green Heron, Blue-gray Gnatcatcher, Red-headed Woodpecker, and Veery and Wood Thrushes.

The next wave, or composite of waves,

was the big one of the year, extending from May 1 to 11. Fifty-seven new arrivals came in during this period, of which the more unusual ones may be mentioned. A flock of 25 Golden Plovers, very unusual migrants in this region, was seen on the 5th. Single individuals were again found on the 18th and 23d. Two Connecticut Warblers were found on the 6th and another on the 8th. The Golden-winged Warbler was noted on four different dates. Two Hooded Warblers were seen on the 8th. The Gray-cheeked Thrush was found regularly for several days. Baird Sandpipers were identified at Bay Point on the 11th (M. L. Grant) and again on the 18th (Lynds Jones). Perhaps the most interesting record of the wave was that of the Nelson Sparrow. One was first noted singing on the 10th within the village limits. Later it could be found regularly in a shrubby corner in the southwestern part of town. Still later two individuals were reported from the same place. On the 18th, still another individual was found at Bay Point (L. J.) so that this rare bird may perhaps be called not uncommon during the height of migration this spring.

Another wave appeared on the 18th. Although not so rich in new arrivals, it brought a large increase in species already represented in the region. In spite of the driving rain, the birds were very abundant, a list of 148 species being obtained for the day in the region around Bay Point. Several hundred shore-birds were present on the point, including over a hundred Red-backed Sandpipers, over two hundred Semipalmated Plovers, several Least, Semipalmated, Spotted, and Solitary Sandpipers, and a few Sanderlings and Piping Plovers. The Yellow-bellied Flycatcher was also found commonly during the day, and a few Philadelphia Vireos and a single Mockingbird were seen. The Black-bellied Plover, another notable bird, was found first on the 17th and again on the 18th. An interesting feature of the day was the large Hawk migration, composed principally of Broad-winged Hawks, but with a number of Sharp-shinned, Red-tailed, and Marsh Hawks, and a sprinkling of Cooper and Red-shouldered Hawks.

After this wave had terminated, the bird-ranks began to grow thin, and only a few late stragglers drifted in: King Rail and Nighthawk on the 21st, and to close the migration two more remarkable records in 5 Knots on the 23d (L. J.) and 1 White-rumped Sandpiper on the 25th (M. L. G.). A single Knot was again seen on the 30th.

The Warblers and other late migrants were slow in leaving us this year. A few could be found till the end of the first week in June, and it is entirely possible that one could find a few by diligent searching at the present time (June 15).

The nesting of a pair of Pigeon Hawks near Cleveland is a matter of interest because of their rarity in this region. According to reports they have been nesting there for the last year or two, and were again found to be engaged in domestic operations this year (Baker and H. Jones).—S. CHARLES KENDEIGH, *Oberlin, Ohio.*

CHICAGO REGION.—For the third successive year, Chicago's spring season has been cool. There have been no storms of great severity, nor any prolonged rainy spells, but cool weather has been the rule to a greater extent than in the seasons previous. This condition seems to have had the effect of retarding the entire migration, and at times it seemed as if the whole northerly movement might be a week to a fortnight behind time. This was more noticeable in the field than a review of first dates for species indicates, as hardy individuals were not always followed promptly by their kin.

On April 18, the Blue-gray Gnatcatcher and Palm Warbler appeared. But from that time to the 24th not a new species was reported. The 24th brought a rather general wave, including increased numbers of species already reported, and with them the Spotted Sandpiper, Chimney Swift, Barn Swallow, and Carolina Wren. Mr. Lyon trapped a Black and White Warbler at his Waukegan banding station on the 26th, the first of the species to be reported from the region. Mr. Lyon's bird-banding activities are proving of remarkable interest and value to ornithologists, and the publicity they gain for nature study is of the most desirable sort.

Henslow's Sparrow, Yellow Warbler, House and Long-billed Marsh Wrens were noted April 27 and the Black-throated Green Warbler on the 29th. Caspian Terns and Double-crested Cormorants were observed by Professor Eifrig, at Peoria, on April 26, and at Lake Calumet on May 10 by Dr. Paul. Dr. Paul also reported a flock of 100 or more Red-backed Sandpipers seen on the same trip.

But little bird activity was noted during the first week in May. Mrs. Cramp, at her Dunes Cottage, found the following between May 3 and 6: Kingbird, Baltimore Oriole, White-crowned Sparrow, Indigo Bunting, Cedar Waxwing, Maryland Yellow-throat, Yellow-breasted Chat, Catbird, and Bewick's Wren. Mr. Lyon observed the Oriole on May 2, and the White-crown on the 4th, but the other species of Mrs. Cramp's list were not reported from other parts of our region until several days later. Miss Vent lists the Purple Finch on May 3, and Chestnut-sided Warbler, Ovenbird, and Gray-cheeked and Olive-backed Thrushes on the 6th and 7th. The first Scarlet Tanager was seen on the 6th.

A real migration wave was apparent on the 9th and 10th, although it seemed confined largely to Warblers, most of which were found in large flocks. The species reported include: Nashville, Northern Parula, Cape May, Black-throated Blue, Magnolia, Blackburnian, Water Thrush and Redstart on the 9th; and Golden-winged, Orange-crowned, and Tennessee on the 10th. Maryland Yellow-throats came in with these flocks as did large numbers of Palms and Myrtles. A few Wood Pewees and Least Flycatchers came in with this wave, and a Sora was found in Lincoln Park on May 9.

On a trip to the Dune region (May 11), Messrs. Hunt and Platte found Common Terns, Whip-poor-will, Crested Flycatcher, Clay-colored Sparrow and Chipping Sparrow. Rose-breasted Grosbeaks were reported from the city the same day, and the Nighthawk was added to our list on May 12.

Another record we owe to Mr. Lyon's bird-banding station is that of the Harris's Sparrow, trapped by him on May 13. Mr. Lyon snapped several pictures of the

bird in the trap and he looks very jaunty indeed wearing his newly bestowed Biological Survey anklet. On the 14th, Dr. Lewy noted about 20 Cormorants and a Prairie Warbler (Little Calumet River), and Dr. Paul reported a small flock of Hudsonian Godwits from Lake Calumet. The Ruby-throated Hummingbird appeared May 15, and Black Tern and Connecticut Warbler on the 16th. From the 12th to the 16th, the migration seemed to be nearly at a standstill. The six or seven species above named were the only new ones noted, and birds that should have been well to the north of us still remained, as witness the Rusty Blackbirds and Hermit Thrushes still with us on the 16th. This peculiar condition was terminated when, on the 17th and 18th, birds swept in at a rate which brought the migration to its true peak on the 18th. The party of which the writer was a member on May 18 found 120 species during the day's trip, while another group made a list of some 110. Species first observed on the 17th and 18th are: Bittern, Great Blue, Green and Black-crowned Night Herons (all overdue), Least Bittern, Wilson's Phalarope, Red-backed, Pectoral, Least, and Semipalmated Sandpipers, Upland Plover, Sanderling, Semipalmated and Black-bellied Plovers, both Cuckoos, Yellow-bellied and Acadian Flycatchers, Yellow-headed Blackbird, Orchard Oriole, Philadelphia, Warbling, Yellow-throated, and Blue-headed Vireos, Cliff, Bank, and Rough-winged Swallows, Prothonotary, Black-poll, Mourning and Canada Warblers. Caspian Terns, Harris's Sparrow and Slate-colored Junco were also observed, the last being mentioned on account of its lateness.

Mr. Coryell noted the Dickcissel on May 25, and a Blue-winged Warbler was seen by Mr. Zimmer on the same date. On the 27th, Caspian Terns were found at Riverside. This species evidently paid us more than its usual number of visits during the spring. A few Magnolia and Canada Warblers remained in the Dunes until May 30, and on the 31st Dr. Strong observed a flock of 20 or more Northern Parulas at Palos Park. On the same date Mrs. Richardson reported a Knot seen at the Dunes. The bird was well

back from the shore and seemed to be hunting insects among the small shrubs and tall beach grass.

Dr. Lewy's discovery of the Bewick's Wren (about June 4) at Jackson Park is worthy of note. This species is regularly found in the Dune region but is seldom noted within the limits of the city.

The Ovenbird, Mourning Warbler, and Olive-backed Thrush still remained at Lincoln Park on June 10 (Miss Bates). At the present time, however, only our regular summer residents are reported. A trip to Hammond, Ind., made by the writer on June 10, disclosed nothing more surprising than a few Herring Gulls, and our nesting Red-wings, Meadowlarks, Grackles, Black Terns, Killdeers, Spotted Sandpipers, and King Rails.

With the first real summer weather yet to come it is hard to realize that it is but a scant month before the calls of the Pectoral Sandpiper and the Yellow-legs will announce the beginning of the southerly movement of the birds, whose migration to the north we have just witnessed.—GEORGE PORTER LEWIS, *Chairman, Report Committee, Chicago Ornithological Society.*

MINNESOTA REGION.—The unusually mild and agreeable weather of February and March seemed to promise an early and pleasant spring but the reality was a great disappointment. The whole period from mid-April to near the middle of June was exceptionally cold and disagreeable, with only occasional warm days. There were many cloudy days, with almost constant cold and penetrating northerly winds, and frosty nights and flurries of snow until late in May. On May 8 and 9 snow was general over the northern part of the state and 5 inches fell at Duluth. On May 21 there was a considerable snowstorm up at Fosston, Polk County, and again on the 23d over the northwestern counties. May 18 to 21 icicles 10 inches long formed on the railroad water-tanks in the Leach Lake region (Bailey). The temperature was near the freezing-point with a light frost at Minneapolis on May 25, and frosts occurred in the northern part of the state as late as June 6.

May 6 to 11 the head of Lake Superior, at Duluth, was packed for a distance of 2 miles out with heavy drift ice, forced into the harbor by strong northeast gales, and thirty or more large ships were imprisoned in the ice for several days. This great ice-field and the constant northeasterly winds that prevailed possibly had something to do with the low temperatures throughout the state.

May of the present year was the coldest for thirty-three years with a single exception—1907. The mean of all hourly temperatures was 50°; 47° in 1907. The warmest May on record was in 1896—64°. The precipitation the present May was 3.92 inches, slightly above normal.

June began with several warm days followed by a brief cold spell with frosts in the northern part of the state, but since the 10th it has been warm and summer-like for the first time this year. A great storm, a veritable cloudburst, occurred at Minneapolis on the evening of June 14, with a fall of 2.69 inches of rain in an hour's time. A much-needed heavy rain fell at the same time over all of the western part of the state.

In spite of the increased precipitation during the past six weeks the lowering of the water-level of the lakes and streams goes steadily on. Many of the shallower lakes and ponds have disappeared entirely and sloughs and marshes that were formerly permanent throughout the year are now entirely dry.

Vegetation, both wild and cultivated, has been retarded two weeks or more, and farmers, gardeners, and floriculturists have found the season most discouraging. This condition has been general throughout the state. The foliage of most of the trees was scanty until near the end of May, even in the southern part of the state, and it was not until the very last days of that month that the pink hue of the blossoming oaks was replaced by the olive-yellow of the first leaves. On Decoration Day, May 30, the woods in the northern part of the state were still bare and almost winter-like. Mr. P. O. Fryklund, of Roseau, writing of the state of vegetation in northwestern Minnesota, the first week of June, says: "All grasses are very short, not enough for pasturing stock until the middle of the week. Poplars and Box

Elders commenced leafing the last week of May, while oak, elm, linden, birch, and mountain-ash were a week later. The undergrowth showed very few leaves before June 1. Plum trees bloomed the first week of June but there were few flowers other than the marsh marigold, bellwort, and early violets." At the same time, in the Leech Lake region, poplars still had leaves only an inch long, tamaracks were just showing green, and willows were just blooming (Bailey).

An unusual number of dead birds have been picked up this spring, mostly the smaller insectivorous species. Probably the low temperatures and strong north winds interfered with the food supply. Mr. E. A. Everett, of Waseca, wrote that on May 10 "We found a flight of disabled Tree Swallows. Some of them were lying dead along the shore of the lake and many others were lying in the grass and along the beach in a very weakened condition. They were all very thin." Miss Lakela, at Fairmount, reported a similar condition at about the same time, other species in addition to Swallows being found. Mr. L. G. James, of Little Falls, reported a great destruction of birds in that locality on May 13 by a violent hailstorm. Elsewhere throughout the state many birds—Warblers, Thrushes, Swallows, etc.—were picked up dead.

Several additional reports in regard to winter visitants have been received since the last chapter was written, chiefly of Evening Grosbeaks in the southern part of the state and of Lapland Longspurs. The following from Miss Torgerson, of Fosston, showed that there was a considerable movement of the latter species through the northwestern part of the state this spring: "Every day from March 16 to 23 inclusive large flocks of Lapland Longspurs were flying overhead. They came from the southwest and were flying toward the northeast. On the 16th and the 22d they stopped and fed on seeds in stubble fields. On the other dates they seemed to be flying high and passing right on."

The normal spring migration was much disturbed by the unnatural weather conditions and associated interference with food supply. A few individuals of most species, even Warblers and Flycatchers, arrived at

about the usual time in spite of the unsuitable conditions that confronted them. But in general these venturesome spirits were not followed by the bulk for at least ten days later than normal. The customary early May 'wave' of Warblers, Vireos, Sparrows, etc., came on time, but the great influx due in mid-May lagged some days behind. From May 22 to 26, in southern Minnesota and a few days later farther north, there came such a flood of these delayed and intermingled migrants that the whole country was literally alive with them and they invaded the cities and towns in such numbers that not only bird students and nature-lovers but all observing persons saw and remarked upon the unusual phenomenon. It was 'the time of one's life' for the Warbler enthusiast. Fifteen or eighteen species, seen in the trees and shrubbery from the windows of a city home blessed with a yard, was the experience of several 'shut-ins' on the 23d and 24th, which were the 'big days' at Minneapolis.

Examination of the reports from observers in the southern part of the state show that every one of the possible species of the Warbler family was seen, including two or three exceptionally rare ones, notably several Ceruleans, of which but few previous records existed. Some species were in such abundance as to almost pass belief, especially the Redstart, which flitted and flashed and displayed its gay vestments on all sides, a dozen or so in a city lot at the same moment. Many other birds, of course, came with this belated Warbler host: Thrushes, Vireos, Flycatchers, Grosbeaks, Tanagers, etc.

The cold days of late May caused some of the northern-nesting species to remain at southern localities much beyond the usual dates. For example, the following species were seen at Minneapolis between May 30 and June 4: Tennessee, Parula, Myrtle, Magnolia, Bay-breasted, Blackpoll, Palm, Wilson's, and Canada Warblers, Grinnell's Water-Thrush, Gray-cheeked Thrush, Olive-sided Flycatcher, and White-throated Sparrow.

There were a number of unusual records for the state this spring which will be reported by the observers later. Mention may be made here, however, of 3 Bewick's Wrens seen at Red Wing by Miss Densmore on

April 28, which suggests a still farther northward movement of this southern species known to occur as a summer resident in Minnesota only in the Root River Valley in Fillmore and adjacent counties. A stray Western Tanager was seen by Mrs. Phelps Wyman, Lawrence Zeleny, and the writer at Washburn Park, Minneapolis, on May 17, which constitutes a first record for the state.

Miss Almira Torgerson, of Fosston, Polk County, in an analysis of this spring's migration in that locality, recognizes some five more or less distinct 'waves' which can be identified with similar movements occurring several days earlier in the southern part of the state. The first, April 6 to 9, brought such birds as the Robin, Killdeer, Junco, and Canada Goose. With the second, April 15 to 16, came, among others, the Tree Sparrow, Dove, Martin, and Swamp Sparrow. The third, May 9 to 11, was a large flight and brought the Black and White, Nashville, and Cape May Warblers, Gray-cheeked Thrush, White-crowned and LeConte's Sparrows. With a fourth, May 15 and 16, came Grinnell's Water-Thrush, Blackpoll and Yellow Warblers, and the Rose-breasted Grosbeak. Cold weather from the 17th to the 26th checked migration, until, between the 27th and 30th, the great movement, which passed Minneapolis a few days earlier, reached that northern point and brought many new arrivals, among them the Whip-poor-will, the Scarlet Tanager, and the Arkansas Kingbird.

The following persons have kindly contributed full reports of this season's remarkable migration, and these have formed the basis of the above general account, but space forbids the use of them at present in greater details: J. M. Eheim, of Hutchinson; Miss Agnes Williams, of Renville; Miss Densmore, of Red Wing; Mr. Gillis and Mrs. Hodson, of Anoka; Mr. Bailey, of Elk River; Miss Lakela, of Fairmount; Mr. Orcutt Frost, of Cloquet; Mr. James, of Little Falls; Miss Torgerson, of Fosston; and Lester Badger, of Minneapolis, for Frontenac. The calendar below, which is for the "Twin City" Region, has been compiled from reports furnished by Mr. Rosenwinkel and Burton Thayer, of St. Paul; Miss Morse, Mrs

Davidson, Mrs. Wicks, Mrs. Wyman, Mr. Swedenborg, and Mr. and Mrs. Commons of Crystal Bay; and the University Bird Class which, under the guidance of Mr. Kilgore and the writer, had the exceptional experience of seeing and studying 142 species of birds in the field.

April 15, Chipping Sparrow, city lawns green. April 16, Yellow-headed Blackbird, White-throated Sparrow, Horned Grebe (Elk River). April 17, Field Sparrow. April 18, Sparrow Hawk, Bank Swallow, Greater Yellow-legs, two flocks of Canada Geese at Lake Minnetonka. April 20, Swamp Sparrow, Tree Swallow, Winter Wren. April 23, Brown Thrasher, American and Red-breasted Mergansers, three-flowered geum in bloom. April 24, Chimney Swift. April 25, Turkey Vulture, Palm Warbler. April 26, Green Heron, Lincoln's Sparrow, Towhee. April 27, Spotted Sandpiper, Orange-crowned Warbler, first female Red-winged Blackbirds. April 28, Kingbird, box elder in bloom. April 30, Bonaparte's Gull, Common Tern, Broad-winged Hawk; in bloom—blood-root, pasque flower, Dutchman's breeches, large bellwort, isopyrum.

May 1, Sora. May 2, Maryland Yellowthroat. May 3, Black and White and Tennessee Warblers, Grinnell's Water-Thrush, Olive-backed Thrush, tamaracks showing green, willow, box elder, and elder green with small leaves. May 4, Magnolia and Black-throated Green Warblers, Savannah and Clay-colored Sparrows, Veery, Whip-poor-will, Florida Gallinule, Solitary Sandpiper; Flicker digging nest; nests of Grackle and Brown Thrasher; in bloom—sweet white violet, white birch, and spring carex. May 5, Golden-winged, Nashville, Cape May, Blackburnian, Yellow, and Wilson's Warblers, Ovenbird, Redstart, Louisiana Water-Thrush, Yellow-throated, Blue-headed and Warbling Vireos, Least Flycatcher, Harris's Sparrow, Rose-breasted Grosbeak, Black-billed Cuckoo, Black Tern, Wilson's Phalarope; wood anemone and blue violet in bloom. May 6, White-crowned and Lark Sparrows, Least Sandpiper. May 7, Wood Thrush, Short-billed Marsh Wren; in bloom—hoary puccoon, bird's-foot violet, ground plum, spring beauty. May 9, Pine Warbler and Baltimore

Oriole. May 10, Gray-cheeked Thrush, Virginia Rail, Short-eared Owl. May 11, Ruby-throated Hummingbird, Olive-sided Flycatcher; in bloom—rue anemone, early meadow rue, blue cohosh, marsh marigold and hard maple. May 12, Chestnut-sided and Blackpoll Warblers, Alder Flycatcher, Scarlet Tanager; White-breasted Nuthatch feeding young; in bloom—golden corydalis, Missouri currant (cultivated). May 13, First plum trees in bloom. May 15, Red-eyed Vireo, Long-billed Marsh Wren. May 16, Canada Warbler; apple trees in city just coming into bloom. May 17, Parula Warbler, Indigo Bunting, Crested Flycatcher, Night-hawk; Downy Woodpecker with young; in bloom—Juneberry, wild gooseberry, Jack-in-pulpit, red oak, ironwood, showy almond (cultivated). May 18, Mourning Warbler, Philadelphia Vireo; plum trees now in full bloom. May 19, Wood Pewee; violet wood sorrel in bloom. May 21, Cerulean Warbler (Kilgore); Ruddy Turnstone, Semipalmated Plover, Semipalmated Sandpiper. May 22, A Western Willet (Mrs. Wicks, Mrs. Wyman and others); an uncommon bird of late in this vicinity. May 23, Yellow-bellied Flycatcher. May 24, Orchard Oriole. May 25, blue-eyed grass in bloom. May 27, Five Black-bellied Plover (Swedenborg); now a rare migrant here. May 28, in bloom—wild geranium, nodding trillium, wild black currant, *Valeriana edulis*. May 30, Caspian Tern, Northern Phalarope, Red-backed Sandpiper; a flock of 17 or 18 Ruddy Turnstones (Rosenwinkle); in bloom—baneberry, showy orchis, great-flowered trillium, water-leaf, maidenhair fern opening; Ring-billed Gulls still here. May 31, oaks just leafing out.

June 1, in bloom—chokecherry, carrion flower, honeysuckle, *Aralia nudicaulis*. June 2, Least Flycatcher and Yellow Warbler building; small white lady's-slipper in bloom. June 4, Yellow-throated Vireo building. June 7, Wood Pewee's nest, Baltimore Oriole building, Rose-breasted Grosbeak incubating; spiderwort in bloom. June 11, Wilson's Phalarope's nest, four eggs (Mrs. Davidson); Bobolink's nest, five eggs; Lark Sparrow's nest with eggs; Clay-colored Sparrow's nest with young two days old; Savannah Sparrow feeding young. In bloom: wild lupine, star

flower (*Trientalis americana*); bridal wreath, snowball and lilac just at their height in city—about two weeks late.

A notable feature of the migration in Minnesota this spring was the great movement of shore-birds that occurred, especially in the western part of the state. Either they were in largely increased numbers or were bunched together because of the late spring and the reduced number of feeding-places, the latter resulting from the drying up of so many ponds and sloughs. Mr. Alfred Peterson, of Pipestone, in the southwestern corner of the state, made a careful and diligent study of this great flight of water-birds and the following outline is condensed from the extensive report that he kindly furnished the Museum. Twenty-six species of shore-birds of a possible 29 were seen, the Woodcock, the Buff-breasted and Baird's Sandpipers being the only ones lacking. Five species arrived in late March and April, and then all through May there was a great throng arriving, passing by, or remaining for a time to feed on the mud flats and beaches about Lake Benton and Ash Lake in Lincoln County and Lake Shetek in Murray County. Late in May and the first days in June the migrants left, leaving only the Killdeer, Spotted Sandpiper, Wilson's Phalarope and the Upland Plover. Several rare species for Minnesota were seen: a Knot on May 25 at Lake Benton and two Piping Plover at Lake Benton on May 18 and 25, each being second known records for the state. A number of Ruddy Turnstones were seen May 25 to June 1; Silt Sandpipers in considerable numbers May 11 to June 1; 10 Sanderlings at Ash Lake and Lake Benton, May 18 to 28; both Golden and Black-bellied Plovers singly or in small flocks, May 11 to June 1; Long-billed Dowitchers and White-rumped Sandpipers were present and after the middle of May were in considerable numbers. Wilson's Phalarope came May 4 and was very numerous up to June 1. The Northern Phalarope arrived May 18 and was fairly common to June 1, as many as 40 being seen at one time on May 25 at Ash Lake. A number of Hudsonian Godwits were seen. Only a single Greater Yellow-legs was seen among countless lesser.

In addition to the shore-birds there was also a large flight of Ducks, including almost all species. The Gadwall and Ruddy Ducks, species becoming uncommon in this state of late years, were fairly well represented. Mr. Peterson adds "There were lots of Geese this spring, nearly all White-fronted. The first were seen March 23."—THOMAS S. ROBERTS, *Zoological Museum, University of Minnesota, Minneapolis, Minn.*

DENVER REGION.—Collecting and reviewing migration data, even in so restricted an area as this report covers, has proven an extremely interesting diversion and still has not lessened the puzzle of why some species arrive in areas not very widely separated on very different dates.

Of course, it may in part be due to chances of observation, length of time in the field, etc., but when all this is said, there still remains, it seems to me, a large margin of mystery in these migration variations and differences. Thus, this year Bullock's Oriole reached Grand Junction not later than May 3, while the first seen at Fort Morgan was there on May 9, and I did not see one about Denver until May 11. There may be a six days' difference in migration arrivals of similar species between Fort Morgan and Grand Junction but I have not had indubitable proof of it. There was greater irregularity in the arrival dates at these three different localities for the Yellow Warbler. Miss Copeland tells me that it reached her neighborhood on April 27, Mr. Hellstern first saw it this spring at Fort Morgan on May 12, while the date of its arrival in Denver is about midway between these two extremes, viz., May 6, which is almost in schedule time for Denver. The Lark Sparrow appeared at Fort Morgan on April 16, yet I did not see it in Denver until May 4; it may have been in Denver earlier than this as it reached Grand Junction by April 27.

My general impression of bird arrivals in this region this spring is that many, perhaps a majority, were late in reaching us; some light can be shed on this, perhaps, by a slight review of records, for the past years, made by myself. The Vesper Sparrow's earliest date for Denver is April 13, while this spring

I first noticed it on April 20, at which time it was here in abundance; the Rock Wren's earliest previous arrival is recorded for April 20, and it appeared in my neighborhood on April 21, being then seen by Drummond Aitken and David Painter. This Wren does not seem to have been recorded for this spring by either Miss Copeland or Mr. Hellstern, whose copious and helpful notes relating to Grand Junction and to Fort Morgan do not mention the species. The Arkansas Kingbird is one of our most characteristic Flycatchers, and one can scarcely miss it if one be in the field any reasonable length of time, yet I did not see it in Denver until May 25, but Mr. Hellstern saw it in Fort Morgan as early as April 22, while Miss Copeland noted its arrival in Grand Junction as of May 2. I am afraid I missed seeing it or was not out in the field enough. The Denver record of the Sage Thrasher would lend color to the belief that our birds were late in reaching us, for it first came under observation this season on April 21, while my earliest prior record is of April 6. However, this species is most erratic in its visitations to this region, and hence it may not be a good index by which to judge of the lateness of migration waves arriving in this area. Previous to this spring I have never seen an American Rough-leg Hawk about Denver after March 26, yet this year one was detected south of the city on April 20. These notes on comparative migration arrival dates are sufficient to illustrate the difficulty of reaching a decision as to whether or not the birds were late in coming to us.

Mr. Hellstern tells me that Fort Morgan has had a goodly number of Blue Jays this spring, so many that he is sure, after years of experience there, that the species never was so abundant and that it seems steadily to be on the increase in his neighborhood. Miss Copeland reports a Desert Sparrow as appearing at Grand Junction on May 4; though it has been known to breed in Mesa County (in which Grand Junction is located), it is an uncommon bird there, and one cannot but feel pleased that this beautiful species still finds its way as far north as Grand Junction.

Notwithstanding the cold backward

spring which seems to have affected most of the United States this year, many species early succeeded in bringing out young in this vicinity. The sturdy Horned Larks impress one as never being bothered by inclement weather, and go on with nest-building and incubation despite such adverse conditions; hereabouts one can count on seeing young Horned Larks very early in the spring; this year it was not until the last week of April that these young Larks were seen, relatively very late for this species. Then, too, the Virginia Rail was successful in hatching its eggs fairly early, for some interesting little Rails were watched a long time on May 25 in a swamp near the Denver State Fish Hatchery. Only one familiar with the delights of ornithology can appreciate the pleasure it was to us to see the little black woolly balls running in and out of the tulas on toothpicks as it were.

There has been a veritable swarm of Red-headed Woodpeckers to the northeast and east of the city this season, more than I have ever before seen in any previous year. Plainly this beautiful Woodpecker is spreading westward with accelerating speed; it was extraordinarily abundant along the Platte River on and after May 25.

Several species seemed to have lingered long in the region, or to have oscillated to and fro between it and the foot-hills after reaching our region. The Rock Wren comes to mind first for it appeared in my home neighborhood on April 21, and was seen off and on until June 1, which is a long sojourn, the usual experience showing it as arriving at the earliest about April 21 and remaining about ten days. This Wren undoubtedly breeds occasionally on the plains, though I myself have never detected it so doing, especially about Denver, hence I am inclined to believe those individuals which lingered here so long were not local breeding birds.

Our three commonest thrushes have been seen a good many times since the arrival of the first ones, the Olive-backed on May 13, the Willow Thrush on May 26, and the Audubons on May 27, the last remaining in evidence up to June 5.

Some of my pleasantest surprises in bird-life have come when I least expected them;

on June 8, while driving past the Country Club, a California Cuckoo flashed in view across the street, and was accommodating enough to feed busily in some roadside bushes where I could watch it well and renew my acquaintance with the species. This Cuckoo is by no means common in Colorado, and less so in Denver, where I have seen it but three times in more than thirty years' observation. Fortune again smiled on me that day for in the afternoon I saw a Brown Thrasher in Cheesman Park, only the second time this Thrasher has come under my notice in Denver.

It is a delight and a great satisfaction to record the growing local interest in birds at Grand Junction, indubitably due to Miss Copeland's enthusiastic work, and in Fort Morgan where Mr. Hellstern has for years by voice and pen and printer's ink communicated his zeal in bird work to his friends and fellow townsmen.—W. H. BERGTOLD, *Denver, Colo.*

PORTLAND (OREGON) REGION.—The writer spent most of the month of April in Klamath County, Oregon. He found that there were great numbers of birds of various species present. The number of Avocets and Black-necked Stilts seemed to be greater than usual, although possibly this was due to the low stage of the water, causing them to concentrate more than in normal years.

Young Canada Geese were noted on April 19 in several localities in this district, and during the period from April 15 to April 21 there was a very great migration of shore-birds, in which Willets predominated in numbers. Western Sandpipers, Solitary Sandpipers, and Greater Yellow-legs, were noted in this migration. The Willets were far more abundant than it has been the previous good fortune of the writer to witness. Every little pond and marshy spot contained a few individuals and several flocks of 15 to 20 or more were noted. Even a little swamp formed by a small spring near the Klamath-Lakeview road, had its quota of these shore-birds—there being four Willets, a Solitary Sandpiper, and two Greater Yellow-legs about this pond when we camped for the night. A pair of Blue-winged Teal

were noted in Klamath County on April 19, which is, I believe, the first record for the district.

On May 4, a trip was made through the Columbia River bottoms near Portland. It was stormy and rainy most of the time, and about the usual migration movement was in evidence. Of particular interest on this trip was the presence of two Arkansas Kingbirds, which are not commonly found in this district. Audubon's and Yellow Warblers were particularly abundant, and a few Myrtle Warblers were noted. One huge flock of migrating Swallows, consisting mostly of Northern Violet-green and Cliff Swallows, but containing also Barn and Tree Swallows, was found on the river. These birds were resting on a piece of plowing instead of being on the fence-wires as they usually are.

During the latter part of May a trip into eastern Oregon did not reveal any unusual bird records. One rather large flight of Western Tanagers was observed in Wallowa County on May 20, other birds being about as usual. On May 25 a colony containing approximately 100 pairs of Black-crowned Night Herons and possibly 10 pairs of Blue Herons was located near Baker, Ore. This was a colony which had not previously been reported.

Cedar Waxwings appeared in flocks at my residence in East Portland on May 31, and have been around ever since. These birds usually appear about the time the cherries are ripe, but they are a little ahead of the season this year. On June 1, a fledgling Audubon's Warbler appeared at the bird-fountain in my yard. Fledgling Robins and Brewer's Blackbirds have been common about the yard since my return on May 30.—IRA N. GABRIELSON, *Portland, Ore.*

SAN FRANCISCO REGION.—While many winter-visiting birds have unobtrusively slipped away without leaving records behind them, a few late dates of observance have been reported. April 19 marks the last report for Audubon's Warbler; April 23 for Golden-crowned Sparrow; April 27 for Intermediate Sparrow, Cedar Waxwing and Hermit Thrush; April 29 for Fox Sparrow.

The more conspicuous arrival of summer

birds observed since the last report yields a number of dates. In the Berkeley hills, Black-headed Grosbeak and Tolmie's Warbler were noted on April 12, Western Warbling Vireo was noted on April 19, Lazuli Bunting on April 30, Western Wood Pewee on May 5, Yellow Warbler on May 6; in Lafayette, the Western Chipping Sparrow was noted on May 7. The Russet-backed Thrush arrived the third week in April, some days "previous to April 26," and on May 31 an Olive-sided Flycatcher was heard calling from its usual haunts in the eucalyptus and cypress grove on the University of California campus. Only two casual spring visitants have been observed this year: Western Tanagers were reported several times in May, and a Cassin Vireo was reported on April 25 and on May 5 in Strawberry Canyon, Berkeley.

At this season evidences of nesting stand out as the all-important topic. April 15 found young Titmice in one of Mrs. Allen's nesting-boxes, and April 16 found House Wrens busily building in another. April 17 found the Sparrow Hawks out of their nest under the eaves of the Botany Department building on the University campus at Berkeley. April 28 marks the date of discovery of a completed California Jay's nest in a bay tree on the campus, and about the same time other instances of Jays' nesting activities were reported.

For a full week, from April 20 to 27, when the oak trees on the University campus were infested with their usual quota of larvæ, large numbers of Brewer's Blackbirds visited the trees, obtaining not only meals for themselves, but carrying away large mouthfuls to young in their nests in cypresses on the further side of the campus. At this time many kinds of birds were conspicuously feeding on these larvæ and it was noticeable that adult English Sparrows were making themselves useful by vigorous raids upon the insects both for themselves and for their young.

While the song season appeared to be at its height about the third week in April, even at this date bursts of song are heard from many species. Lutescent and Pileolated Warblers, Western Warbling Vireos, Black-

headed Grosbeaks, House Wrens and Robins, and doubtless others not specially noted, sing at intervals, while Yellow Warblers, Song Sparrows and Nuttall's Sparrows can be heard at any hour of the day.

It was but comparatively few years ago that Robins were first observed nesting in the eastern section of the Bay Region. Each year more instances are noted, and in nearly every case the nests reported have been located in the midst of our cities. This season there have been reported to date the following evidences of nesting: Two nests in succession near the windows of the Berkeley city library, in the very center of town; a single bird noted gathering twigs on a busy street in Berkeley; two young birds of different ages picked up in one section of Berkeley and cared for by hand; a brood of young seen in Alameda, and in the same yard adults carrying nesting material on June 13, presumably for a second nest. While no nests or young have yet come to our attention on the University campus, a number of Robins are apparently located in different parts of the grounds; in Oakland, several pairs of birds have been seen repeatedly in the same section of the city, while numbers are to be seen at any time in the cemetery and on the golf-links.

Continued observations over the same route, in Golden Gate Park, by a University Extension bird class resulted in locating more than a dozen nests of the Allen Hummingbird between March 6 and May 24. Other nesting birds in the Park, observed by Audubon Society members on May 11, were: Mallard, Coot, Quail, Russet-backed Thrush, Robin, and Chickadees (these latter in Boy Scout nesting-boxes).

Shore-bird news covers a period from April 19 to May 20, the observations being made by Mrs. Kelly. The usual numbers were noted of Least, Western, Red-backed, and Semipalmated Sandpipers, Long-billed Dowitchers, Godwits, Willets and Curlew. Of the less abundant species the following interesting observations were made: two or three Black-bellied Plover on April 19, 21, and May 1, and on April 27, three of these birds noted in full plumage; one Black Tern on April 27; one Knot and one Ruddy

Turnstone on May 1; a single Yellow-legs on May 6. By May 20 practically all the winter-visitors and migrants had disappeared.—MARGARET W. WYTHE, *Museum of Vertebrate Zoology, Berkeley, Calif.*

LOS ANGELES REGION.—The Western Tanager, at close of our last report, had been heard from in San Diego County. On April 13 one was seen on Catalina Island. Diligent search and inquiry failed to disclose their presence in the Los Angeles area. On April 20 they first appeared at the base of the mountains near Glendora. April 23 they were abundant at Sierra Madre, and at other points near the foot hills, where they remained for a fortnight or more, during the blossoming period of the grevillea trees.

April 14 brought the male Black-chinned Hummingbirds, a week in advance of the females. On the 23d courtship displays were a dominating interest in every little sycamore-filled canyon, where Allen's also still remained and was similarly engaged.

April 14, Black-headed Grosbeak arrived, and Lawrence's Goldfinch was seen at Poin Firmin. April 16 brought the Wood Pewee, the Olive-sided Flycatcher, and the Russet-backed Thrush.

April 18. Centered interest in Gambel's Sparrows, as this is usually their last day in my garden. Entry in notebook as follows: "April 18. Piping of many Gambel's Sparrows in the morning chorus. Two only were heard to sing. Quite a little flock remained all day in garden feeding about as usual. April 19. At dawn, listening to matins, Anthony Towhee was heard first, then the Song Sparrow, Linnets and Mocking birds, but no note of Gambel's Sparrow fell on my listening ear. All day I watched and listened. At 10 o'clock one Gambel's Sparrow came to food-shelf. Remained in garden all day, but did not sing. April 21. Again one Gambel's Sparrow came to garden." This entry closes the record for the season at my station, and accords closely with observations covering a series of several years. At canyon entrances numbers were found passing throughout the remainder of the month. April 19 and 21. Large flocks of migrating Swallows were seen moving inland from the coastal marshes of

the Santa Monica Bay Region. At sunset they were observed passing over the writer's home, near the Hollywood hills, passing from sight in a northeasterly direction.

About April 20, Black-chinned Sparrows were observed in several foothill localities. April 23, at Glendora, the Alaska Hermit Thrush still lingered and the Hermit Warbler and Lazuli Bunting arrived. The two latter were abundant for a fortnight. Townsend's Warbler was noted, though apparently less numerous than the Hermit. April 24, Cedar Waxwings, which have not been found in this locality at any time during the winter, visited Griffith Park. April 26, Russet-backed Thrushes and Long-tailed Chats had arrived at their summer home in Verdugo Woodlands. Warblers and Flycatchers of several species were abundant, and the California Purple Finches that winter there were still present and in song. April 29, the Fox Sparrow was last seen. On this date, and for several preceding days, migrating Green-tailed Towhees were found in three foothill areas. A Blue Grosbeak was seen by the writer in a field of mustard on Los Feliz hill. Its plumage was mainly brown, with the head blue.

May 1, on the pier at Playa del Rey, an exhausted Hermit Warbler alighted almost at the feet of a group of Audubon people. May 2, California Purple Finches were abundant and in full song at Sierra Madre, where many long rows of blossoming grevillea trees spread a feast for them and for great numbers of Western Tanagers, Yellow and Pileolated Warblers, Willow Goldfinches, Hooded Orioles, and Phainopeplas. A few Ruby-crowned Kinglets remained to this date; one Golden-crowned Sparrow was seen. On the same date three small colonies of Bank Swallows were seen at Long Beach. Purple Finches were still singing at Glendora. Phainopeplas were in song, and the Costa Hummingbird was seen. May 9, Russet-backed Thrush sang in the writer's garden. From that date to and including May 27, one or more were present daily, singing alike at morning, in midday heat, or at eventide. On May 2, and again May 29, a Great Horned Owl was seen in the Sycamore plantation in Griffith Park, in full view of all

passers on Los Feliz road. May 12, Townsend and Hermit Warblers were numerous in Brookside Park, Pasadena, and an Olive-sided Flycatcher was seen. May 25, a pair of Blue Grosbeaks was seen near the Arroyo Seco. June 9, a pair of California Cuckoos was seen in a Sanctuary near Compton.

April 11, Black-necked Stilts and Cinnamon Teal were seen at a slough near Whittier. April 14, Black-necked Stilts were again seen near Long Beach, where were also seen the first Phalaropes of the season, three in number, too far away for positive identification, but thought to be the van of the large flight of the Northern, which appeared there a few days later, and were seen in increasing numbers on a number of dates during the latter half of the month. April 14, 2 Wandering Tattlers were seen at White's Point. Cormorants were passing northward. Bonaparte Gulls, Black-bellied Plover, Least, Western, and Red-backed Sandpipers were changing to summer plumage. Long-billed Dowitchers were seen in large numbers the latter part of April and early May. On April 19, at Playa del Rey, the writer saw a Knot, in company with Dowitchers. It still wore the winter plumage, as did some of the Dowitchers. Excellent opportunity for comparison was afforded. Notes made on the spot include "Bill little more than an inch in length, hardly more than half that of the Dowitcher," and "under tail coverts white." Though entertaining no doubt as to the identity of the bird, on my return I read all available authorities and looked at a mounted specimen in the Museum, finding confirmation in detail. Northbound Knots have not often been recorded from this region. On this date also were seen a Long-billed Curlew and a few Yellow-legs and Willets, many Semi-palmated Plover, and Marbled Godwits. Hudsonian Curlew were at the height of their abundance. Two Caspian Terns and 6 Herring Gulls rested together on a tide flat. Two Egrets were in the marshes. Forster's Terns and Bonaparte Gulls were in very large numbers. On the ocean were Western Grebes, Horned Grebes, Loons, and Scoters, in two large rafts, extending opposite more than a mile of shore-line.

April 25, Black Terns appeared near Long

Beach. April 27, Black Terns were more numerous. Northern Phalaropes had increased greatly in numbers, and Wilson's Phalarope were seen. The identity of seven was positively determined, and a number of other Phalaropes too far away for details of plumage to be definitely observed, appeared by their size and behavior to be of this species. Least and Western Sandpipers swarmed over the flats. Three Egrets were still there. Fulvous Tree Ducks in some numbers were seen in the Playa del Rey marshes during May. Avocets and Stilts are again nesting there. Least Terns appear

to be more numerous than last year. Eggs were seen on their adopted nesting-ground, the bare alkali flats, May 30. Snowy Plover are also nesting there, though at least five pair have laid eggs at their old location on the beach. The Sanderlings that winter on the beach, were seen there May 1 and May 18. On the 23d they were not found. Fourteen Long-billed Curlew were in the lagoon May 18; on May 30 there were 7. Florida Gallinules are frequently seen in a restricted area of the marsh.—FRANCES B. SCHNEIDER, *Los Angeles, Calif.*



VIRGINIA RAIL

Photographed by H. H. Pittman, Wauchope Saskatchewan Canada

Book News and Reviews

A PRACTICAL HANDBOOK OF BRITISH BIRDS.
Edited by H. F. WITHERBY. Authors of the various sections, ERNEST HARTERT, ANNIE C. JACKSON (Mrs. Meinertzhagen), F. C. R. JOURDAIN, C. OLDHAM, N. F. TICEHURST, H. F. and G. WITHERBY. 326 High Holborn, W. C. 1, London. 8vo. 2 vols. Vol. I, viii+532 pages, 17 plates, numerous text figures. Vol. II, xii+959 pages, 13 plates, numerous text figures.

The first part of this work was issued in March, 1919, the eighteenth and concluding part in February, 1924. Its authors are among the leading British ornithologists, and they have had access to the largest collections of British birds, including those of the British Museum and of Lord Rothschild at Tring. The results of this unhurried study of adequate material by qualified experts is in the highest degree authoritative. The distinctive feature of this latest addition to the long list of books dealing with British birds is its exhaustive treatment of plumages and molts, in which respect it is not approached by any of its predecessors, or, indeed, by any other work on ornithology known to us.

The plan of the work included paragraphs on 'Characters and Allied Forms' (most desirable and informing), 'Field Characters,' 'Breeding Habits' (including the season, and, when known, period of incubation), 'Food,' and 'Distribution,' (in the British Isles and abroad). The line-cuts are effective and the colored plates excellent. In a word, the work is indispensable to the serious student of British birds.

The eighteenth and final part contains 16 pages of additions and corrections, bringing the preceding parts up to date, and also a 'Systematic List of British Birds.' This list includes 496 forms representing 418 species, figures which compared with those of our North American Check-List (where some 770-odd species are represented by over 1,170 forms) show how few British birds are represented by more than one race. These 496 species and subspecies are classified as follows:

Residents, 140; Summer-Visitors, 50; Regular Winter-Visitors and Passage-Migrants, 76; Occasional and Irregular Visitors, 229; Extinct, 1. Thus it appears that only slightly more than one-half the number of birds recorded from Great Britain are of regular occurrence. This large proportion of 'Irregulars' is due in part to the geographic position of the area, in part to prolonged, intensive field-work. This Check-List, we may add, is issued separately by the publishers of the work in which it appears.—F. M. C.

RARE, VANISHING, AND LOST BRITISH BIRDS.
Compiled from Notes by W. H. HUDSON.
By LINDA GARDINER. With 25 colored plates by H. GRONVOLD. E. P. Dutton, New York, 1923. 8vo. xx+120 pages.

When the birds of an island have to contend with a dense and ever-increasing population, as well as destruction by gunners, game-keepers and collectors, the fate of the less adaptive and rarer species is pretty certain to be extinction. Nevertheless, most of the birds included in this volume might have been saved to England if they had been given adequate protection. The lesson afforded by their history is plain enough, and it was an admirable plan to make it available through the publication of this beautifully illustrated work. Fortunately, in America, we have not the collector problem to combat. With the exception of the Ivory-billed Woodpecker, we do not recall a single species of North American bird the numbers of which have been materially reduced by the collector. At this time there are probably not one hundred men in this country who collect over one hundred specimens each during the course of a year. We regret, therefore, that a statement so erroneous as the one quoted from an American correspondent of Hudson's who wrote, "We have thousands of ornithologists [in America] who spend their time collecting bird-skins and revising species," should have been given a place in these pages.—F. M. C.

BIRDS IN LEGEND, FABLE, AND FOLKLORE.
By ERNEST INGERSOLL. Longmans, Green & Co., New York, 1923. 8vo. viii + 292 pages.

In this scholarly work Mr. Ingersoll has brought together a surprising amount of information concerning the part birds have played in the formation of those myths and superstitions which become embodied in fable and folklore. The result is not only valuable and interesting to the ethnologist, but reassuring to those who believe that between birds and man there exists a subtle relationship which finds its earliest expression in the myths and legends of primitive peoples.—F. M. C.

OUTWITTING THE WEASELS AND NEW-FANGLED NOTIONS. Two plays for children.
By HELEN HARRINGTON. Adapted from stories by CLARA D. PIERSON. E. P. Dutton & Co., New York, 1924. 12mo. 139 pages.

The Quail, Ovenbird, Oriole, Robin, Meadowlark, Purple Finch, and Scarlet Tanager, all take parts in the first of these two plays well-designed to arouse the child's interest in their lives and awaken his sympathy for them in dangers by which they are surrounded. Thus the feathered prototype is introduced to actor and audience through a medium which perhaps makes a deeper impression than can be produced by the more direct methods of even the most simplified ornithology.—F. M. C.

GLIMPSSES: A BOOK OF THE OPEN WINDOW.
By WYNN URQUHART. The Art and Nature Printing House, Back Bay, Boston, 1923. Oblong 12mo. 82 pages.

Verse seems better fitted than prose to give expression to those swelling emotions which love of nature arouses in us, and to which we feel we must give form. So here the author pays a poet's tribute to the mystery of migration and the charm of flight and song as they make their appeal through the ways of a 'Swallow' or 'Birds of the Air,' or the voice of 'Pewee' 'Robin' and 'Towhee,' or 'Voices at Break of Day.' We are glad to see the reference in the introduction to Bradford Torrey, an author too little read these days, whose work possesses a literary and personal quality which few writers on nature have equaled.—F. M. C.

IDYLLS OF BIRD-LIFE. By BERT G. HOCHWALT. Edited by PRAXIDES BLANDFORD HOCHWALT. With Introduction by WILL WILDWOOD, and Memoir by J. O. ASHBURTON. A. F. Hochwalt Co., Dayton, Ohio. 8vo. 146 pages.

This attractive volume contains essays on bird-life published by their young author before his brief life was ended, together with tributes to him from his wife and from two friends. Wholly aside from their value as a memorial, these studies possess both a literary and ornithological merit which is quite sufficient warrant for their preservation in book form.—F. M. C.

INSTRUCTIONS FOR BANDING BIRDS. By FREDERICK C. LINCOLN, Assistant Biologist, Bureau Biological Survey. Misc. Circular No. 18, U. S. Department of Agriculture, May, 1924. (For sale by Superintendent of Documents, Government Printing Office, Washington, D. C. 10 cents per copy.) 8vo. 28 pages. 28 figures.

The author of this manual is in charge of the bird-banding activities of the Biological Survey, and is, therefore, in a position to speak with authority. Not only has he had a wide personal experience in this new field of bird-study, but he is thoroughly familiar with the methods and results of other workers. It goes without saying, therefore, that no bird-bander should be without this publication.—F. M. C.

Dr. E. W. Nelson, Chief of the Biological Survey, contributes to the September, 1923, issue of *American Forestry* an article on 'Community Protection of Migratory Wild Fowl in Florida' which we hope will be brought to the attention of the authorities of every water-front town in that state.

The Proceedings of the National Conference on Outdoor Recreation, which, at the call of President Coolidge, convened in Washington, May 22-24, 1924, are printed in Senate Document No. 151, and can be secured from the Government Printing Office in Washington.

The second number of the fifth volume of *The Murrelet*, official bulletin of the Pacific Northwest Bird and Mammal Society, is published by the State Museum of the University of Washington, at Seattle.

Bird-Lore

A Bi-Monthly Magazine
Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Contributing Editor, MABEL OSGOOD WRIGHT

Published by D. APPLETON & CO.

Vol. XXVI Published August 1, 1924 No. 4

SUBSCRIPTION RATES

Price in the United States, one dollar and fifty cents a year; outside the United States, one dollar and seventy-five cents, postage paid.

COPYRIGHTED, 1924, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

A Bird in the Bush Is Worth Two in the Hand

INCREASE in human population means inevitable encroachment on the domain of wild life. We may make our protective laws more stringent and enforce them more rigidly, but they cannot prevent the ever-increasing, insatiable demands of man for land and still more land.

Forests fall, marshes are drained, the coastline breaks out in an eruption of bungalows, places once remote and inaccessible are now easily reached by automobiles, motor-boats, or even air-planes, and the game-laws are powerless to prevent this all-conquering, annihilating invasion of the last retreat of those forms of life which for a variety of reasons cannot live in close association with man.

With what supreme satisfaction, therefore, the nature-lover familiar with these facts plants the banner of conservation and establishes beneath it an area where nature primeval shall continue to exist as it was in the beginning. This is the germ of the sanctuary idea, with its strong appeal to both sense and sentiment. But the magic of this word has given it a potency which unaided it does not possess. It may gratify our sense of justice and appease our sense of the responsibility which the strong owe the weak to declare that a given tract is a sanctuary but the mere declaration will not, make it one. The trust must be wisely and actively administered.

The erection of warning notices and cat-proof fences and the establishment of an effective warden service are all essential, but

they do not isolate the enclosed area from the world of which it is a part, and the conditions which prevail in the world are bound to affect those existing in the sanctuary. For example, the fact that the sanctuary gives protection will result in an increased population, both desirable and undesirable, which must be provided for if we are not to make our haven of refuge a trap for the weak and unwary. This implies increasing the natural food-supply and intelligent supervision along many lines which are still largely experimental. We wish, primarily, to emphasize the facts that sanctuaries do not function automatically, and that as yet the sanctuary idea has not been satisfactorily developed on a large scale in this country.

All this is preliminary to the announcement that the National Association of Audubon Societies has recently been given a sanctuary under conditions which fully embody the requirements for the successful demonstration of practical methods in the conservation of wild life. This is a tract of nearly 40 square miles of marsh land in Vermilion Parish, southern Louisiana, which has been presented to the National Association by Mrs. Grace Rainey Rogers, in memory of her brother, Paul J. Rainey, well known as a big-game hunter and photographer of wild life.

This area is extensive enough to afford real protection on a large scale, and it is in the heart of a region frequented by vast numbers of migratory wild fowl which, having escaped the almost endless battery of guns between their summer and winter homes, may here rest in safety. Mrs. Rogers has not only given this sanctuary to the world, but she has so generously endowed it that under wise administration it should become a sanctuary in deed as well as in name. Could there be a more fitting memorial for a nature-lover in whose death a myriad wild creatures thus find life?

In accepting this gift the National Association assumes a grave responsibility which it will spare no effort faithfully to discharge. This combination of means and will should yield results which will not only be effective in themselves but be of infinite value to those who would follow Mrs. Rogers' admirable example.

The Audubon Societies

SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.

Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

BIRDS' NESTS AND HOW TO FIND THEM

With Photographs by A. A. Allen, Ph.D.

The life of an ornithologist is full of thrills, not the blood-curdling, hair-raising variety, but the gentler sort that momentarily stops his heart and then causes it to beat more rapidly; the kind that makes the eye brighten and the air taste good. He is continually meeting with the unexpected, so that the study never grows old but retains its fascination through the years. Some bird students get their greatest thrills from the discovery of a new bird, one unfamiliar to them or one occurring far out of its normal range; others enjoy the discovery of a new song or a new habit; while still others get their greatest pleasure out of the discovery of a bird's nest. Indeed it is a calloused person that can look into the cozy home of a Kingbird and not feel a thrill when he discovers the beautifully marked eggs glowing with the freshness of life.

I can always understand the small boy's desire to make a 'collection' of birds' eggs and the impulse that leads more advanced students into the study of oölogy. It is little wonder to me that oölogists are willing to risk their lives in the quest for rare or beautiful sets of eggs. However, I have come to condemn the practice, though I can still understand the instinct that impels some collectors to take every egg they find, particularly if it is of some rare species on the verge of extinction. It is perfectly right that every accredited museum should possess the nest and one or two sets of eggs of each species of bird, just as they should have mounted specimens of the birds themselves, but large private collections that satisfy only the cravings of the individual are an abhorrence and should be prohibited.

I look forward to the day when the camera will entirely replace the egg-box, and when prints or colored transparencies will replace the rows of egg-shells in the private collection. As a youth I collected birds' eggs as ardently as spare time would permit, and I continued the practice until I was given my first camera and came to realize what a wealth of opportunities I had been wasting, opportunities for making worth-while observations of the birds, and of their home-life, opportunities for making a collection of photographs that would show not only the beautiful eggs that thrilled me, but the nest as well and its setting. By leaving the eggs in the nest I was able to get photographs of the old birds as well and of the young and of many interesting habits of both old and young. As long as I was satisfied with the discovery of the nests and the

transfer of the eggs to my collection, whole chapters in the life-story of each bird were as unknown to me as though they never existed. As long as I was satisfied with a mere collection of eggs I could show my discoveries to but a few of my friends, while now that I have been converted to the camera I can share them with everyone, and, through the medium of the printed page and the half-tone reproduction, my 'collection' is gradually being shown to all who are interested without its losing any of its original charm to me.

During these many years of egg-collecting and then photographing I have



NESTS LIKE THIS ONE OF THE BLACK-NECKED STILT ARE MOST EASILY FOUND BY WATCHING THE INCUBATING BIRDS FROM A DISTANCE WITH BINOCULARS



NESTS OF MARSH-BIRDS CAN BEST BE LOCATED BY TRAMPING THE MARSH AND PARTING THE VEGETATION WITH A STAFF. THIS IS A REDWING'S NEST

naturally developed some facility for finding nests which seems not to be understood by my friends who have been at it for less time. It is partially 'knack' and partially method. The latter can be put down in black and white; the former is difficult to express. If by publishing the methods which I employ in finding birds' nests I should encourage the collecting of eggs, I should be greatly disappointed. If, on the other hand, it makes the problem of the photographer and student of bird-life easier, I shall feel amply repaid. Certain it is that if one would study the home-life of birds he must first know how to find their nests. There are a number of good books, like Chapman's 'Handbook of Birds of Eastern North America,' which give descriptions of each bird's nest and the situation usually selected by the bird, but even with

this information before him it is no easy matter to find the nest of any particular bird.

Now let us assume that we want to find the nests of all the birds living on a certain tract of land of perhaps 50 acres. The tract contains woods and fields and swamp and shore, with a great variety of bird-life. There are two general methods of procedure, both of which will have to be employed; one by watching and listening, and the other by hunting. If the task were allotted to me, I would begin by finding out just what birds were present in the area. I would get up at daybreak the first morning and listen and I would mark down on a rough map of the place just where each bird was singing. It is a matter of common knowledge now that when the nesting season arrives each male bird selects the area which he considers suitable for nesting and proceeds to defend it from transgression by others of his kind. Except when feeding he spends most of his time in this area and announces his presence by singing. He continues to do this ordinarily until after he has found a mate, the nest built, and the eggs hatched. Then his ardor cools. It is not difficult then, after one or two mornings of early rising, to learn just what birds are nesting in the area and also the territory defended by each and the approximate nesting-place.

If one is averse to early rising or cannot get to the spot before some of the birds have stopped singing or moved off to their feeding-ground (which is sometimes removed from the nesting area) he can secure much the same information by concealing himself at different points in the area and 'squeaking.' The 'squeak,' which is an imitation of the call of a young bird or an old bird in distress, is quite easily mastered by gently pressing the back of the hand or the crooked index finger against the moistened lips and kissing forcefully. It requires a little practice to produce just the right inflection which will bring up all of the birds that are nesting in the vicinity, but even a crude call will bring up the Robins and Catbirds and their distress notes will in turn bring up the other birds. Some of them will appear with food in their bills and these should be carefully watched as they will return promptly to their nests. The others should also be marked and the general direction of their coming and going noted.

With the knowledge of what kinds of birds are nesting in the area, one should familiarize himself with the probable nesting-sites as given by Chapman, if he is not already familiar with them, and then begin the real work of finding the nests. There are two general ways of doing it: one by sitting still and watching and the other by actively hunting through all the likely places. One usually has to do enough hunting anyway so it is well to begin by watching. If the birds are carrying food to their young it will not take long to find the nest, though the birds will not ordinarily go to it if they realize they are being watched. As long as they give alarm-calls (and these are easily recognized as such) they are not likely to go to their nests. One should, therefore, withdraw or conceal himself until their alarm passes, being careful, however, never to

lose sight of the bird, especially if it has food in its bill, for it is remarkable how rapidly a bird can disappear, feed its young, and reappear with an empty bill. If the birds are not carrying food it will, ordinarily, take a little longer to find the nest, for the trips of the male to bring food to the female or to inquire after her well-being are less frequent than to the young. If the female is incubating, however, he is sure to go to her sooner or later, or else she will come to him. In the latter case it is merely a matter of watching her until she returns to the nest. It is needless to say that a pair of field glasses or binoculars are indispensable for this sort of work, for one must be able to see whether the bird is carrying food or merely swallowing all it catches, and when it disappears into a thick clump that may or may not be its nest, one needs to be able to distinguish at a distance, for to show oneself may spoil the best chance of finding the nest.

I recall my first hunt for the nest of the Black-throated Green Warbler. I had been watching the male bird for about a half hour when suddenly the female appeared. She was promptly pursued by the male through the tree tops and I had difficulty in following them. Very soon, however, he returned to his singing and I paid no more attention to him and devoted myself to the female. After ten or fifteen minutes of feeding she flew to a hemlock where I thought I could see a thick spot toward the tip of one of the branches. According to Chapman this was the proper sort of a place for the Black-throated Green to nest, and I approached it with confidence only to be disillusioned. The male, seeing me, gave an alarm-call, the female disappeared, and I was as far from finding the nest as when I started. Had I remained in hiding and



NESTS OF FIELD-BIRDS CAN BE LOCATED BY DRAGGING THE FIELD WITH A ROPE.
THIS IS A MEADOWLARK'S NEST

examined the spot with my glasses I would have seen the female pass right by it and would probably have seen her continue to the nest in the top of a birch sapling about 25 feet away where I later found it. By exposing myself too soon I wasted at least an hour.

The first nest of any kind is always the most difficult to find because one

works more or less blindly. After having watched a bird about its nest long enough to find it one becomes familiar with its different calls and mannerisms so that the next time he is able to interpret what he sees and make short-cuts to the nest. This spring, in Florida, for example, I spent a half day finding my first Black-necked Stilt's nest in a large flooded field but, having found it, I found five more in half an hour. The difficulty in the first place lay in the fact that as soon as I appeared the females would run considerable distances from the nests toward me and behave in a most misleading manner long before I reached the vicinity of the nests. By sneaking up within range of eight-power binoculars without the males being aware of my presence, I could mark the females on their nests and then it was plain sailing. And thus it is with many species whose nests are difficult to find until you know how.

One who is interested in finding birds' nests never hears an alarm-



RAPPING LIKELY TREES WITH A STICK WILL CAUSE INCUBATING WOODPECKERS TO PUT OUT THEIR HEADS, BUT SCRATCHING IS BETTER FOR CHICKADEES AND OWLS. THIS IS A PILEATED WOODPECKER.

note without investigating the cause, never sees a bird with nesting material or food in its bill without remaining immovable until he marks where it goes with it. The location of a bird's song is as important as its pitch, and when he hears it from approximately the same place on successive days he gradually marks out the territory to which he can safely confine his hunting or watching.

When it comes to actually hunting for the nests there are a number of little tricks that make their discovery less difficult. In the matter of equipment a stout cane or staff is nearly as important as a pair of field-glasses; it is so convenient for rapping on trees, 'tickling' the underbrush, or parting the dense



BY PUTTING OUT NESTING MATERIAL ONE CAN OFTEN FOLLOW BIRDS
TO THEIR NESTS. THIS INDIGO-BIRD USED THE COTTON SUPPLIED

marsh vegetation. I always cut a small sapling about 5 feet long whenever I start out on a nest-hunting expedition and it becomes one of my best friends. In its use one soon learns to be discreet. A loud rap will startle a Crow or a Hawk from its nest or a Woodpecker from its burrow, but the same blow may cause an Owl or a Chickadee to sit all the closer. A scratching sound, on the other hand, might cause the last named to stick their heads out and save many an unnecessary climb to determine whether or not the hole in question is tenanted.

In my youth I spent many fruitless hours scrambling through dense thickets and tangles until I learned that the birds did not like to go to the center of these thick places any better than I did, and chose the circumference for their nesting-places. Indeed, the number of available nesting-places varies with the

circumference of the thickets rather than the total area, and a field that is dotted with clumps of thorn bushes or shrubbery will contain many more birds' nests than the same size field completely covered with the same bushes. There are two methods of finding nests in such places: one is to shake or brush the shrubbery with one's staff, at the same time listening and looking for any movement suggestive of a bird leaving its nest; the other is to put one's head inside the canopy of leaves and scrutinize the inside of the hollow sphere of leaves. No matter how carefully concealed a nest may be from the outside, it is usually conspicuous from the inside. If one uses a staff he should shake the shrubbery several times and then remain quiet for a minute. Then if he has frightened the bird from its nest and failed to notice it he will probably hear its alarm-call. If one is hunting in snake-infested country, the use of the staff serves to frighten any snakes that might be resting in the bushes. It is rather disconcerting to put one's head inside of a thick bush and come face to face with a moccasin or even a harmless black snake. It is much better to awaken him with the staff and give him a chance to get away.

In hunting for nests of the field birds, like Bobolinks or Meadowlarks or Grasshopper Sparrows, a heavy rope 25 to 50 feet long is convenient. If the bird is incubating or brooding it will seldom let the rope pass over it without flushing, and two persons with the rope between them can cover a field in a short time. One must watch the rope carefully, however, for many of the birds will run some distance before flying and the nests are then difficult to find.

Field-birds nest rather indiscriminately over the entire field but marsh-birds, like the Rails and Gallinules, seem to nest most abundantly about the edges of the marsh or about the open water-holes further out. The dense beds of cat-tails and rushes in the North and the disheartening sawgrass of the southern swamps are rarely penetrated deeply by nesting birds, so that one has best success in skirting these areas rather than in attempting to plow through them. The nests of marsh-birds are usually not difficult to find, if one does not try to keep his feet dry, by simply walking back and forth through the marsh, avoiding



BY WATCHING THE MORNING AND EVENING FLIGHTS OF HERONS AND IBISES ONE CAN OFTEN LOCATE THEIR ROOKERIES. THESE ARE WOOD IBISES

or skirting the extensive patches of flags and following more or less the borders of streams or pond-holes. The Rails and Gallinules regularly bend the reeds together over the nest so as to conceal the eggs, but this habit makes the nesting-site even more conspicuous to one who knows what he is looking for.

One more short-cut to finding certain birds' nests is worth mentioning: that is the placing of nesting material such as cotton and short pieces of yarn or string in a convenient place to watch. The Warblers and Goldfinches and Orioles that come for it are easily traced to their abodes.

Birds that nest in colonies, like most of the Herons and Ibises, and which often fly long distances to feed can usually be traced to their rookeries by lining them up when the conspicuous flocks are leaving in the morning or returning in the evening. It frequently requires miles and miles of wearisome travel to get to the rookeries, however, and my advice, after a season spent in their quest, is to get somebody else to do it.

There are doubtless other and better ways of finding birds' nests than these here described, and we shall always be glad to hear of the experiences of others.—A. A. A.

FROM YOUNG OBSERVERS

A SPRING BIRD CENSUS FROM NEW JERSEY

Taken by Mrs. Gladys G. Fry and Cynthia Kuser at Ravine Lake, Bernardsville, N. J., and vicinity of Morristown, on May 17, 1924, from 5.30 A.M. to 1 P.M. and 3.30 to 7.30 P.M. Weather, fair and warm. Black Duck, Great Blue Heron, Black-crowned Night Heron, Green Heron, Spotted Sandpiper, Killdeer, Mourning Dove, Sharp-shinned Hawk, Broad-winged Hawk, Red-tailed Hawk, Marsh Hawk, Osprey, Yellow-billed Cuckoo, Belted Kingfisher, Downy Woodpecker, Flicker, Chimney Swift, Kingbird, Phœbe, Crested Flycatcher, Least Flycatcher, Alder Flycatcher, Blue Jay, Crow, Starling, Cowbird, Red-winged Blackbird, Meadowlark, Purple Grackle, Baltimore Oriole, Goldfinch, Chipping Sparrow, English Sparrow, Field Sparrow, Song Sparrow, Rose-breasted Grosbeak, Indigo Bunting, Towhee, Scarlet Tanager, Barn Swallow, Bank Swallow, Tree Swallow, Yellow-throated Vireo, White-eyed Vireo, Red-eyed Vireo, Catbird, Brown Thrasher, House Wren, White-breasted Nuthatch, Black-throated Green Warbler, Black and White Warbler, Blue-winged Warbler, Parula Warbler, Yellow Warbler, Myrtle Warbler, Magnolia Warbler, Chestnut-sided Warbler, Canada Warbler, Wilson Warbler, Ovenbird, Yellow-breasted Chat, Redstart, Maryland Yellow-throat, Louisiana Water-Thrush, Chickadee, Wilson's Thrush, Wood Thrush, Bluebird, Robin.

N. B. The following birds were seen by C. Kuser after Mrs. Fry had left: Greater Yellow-legs, Black-billed Cuckoo, Bobolink, Orchard Oriole, Vesper Sparrow, Swamp Sparrow, Purple Martin, Cliff Swallow. Total, 77 species.—CYNTHIA DRYDEN KUSER, *Bernardsville, N. J.*

[An excellent list and well presented. It should be used as a model by others.—A. A. A.]

A JUNE BIRD CENSUS FROM CANADA

The highest Bird Census I have ever made in one day was June 22, 1924. Creek, swamp, valley, hillside, field, woods, orchard, etc., were visited. The following birds were recorded:

Chipping Sparrow, Robin, Bluebird, Bartramian Sandpiper, Meadowlark, Fox Sparrow, Bobolink, Song Sparrow, English Sparrow, Bronzed Grackle, Crow, Mourning Dove, Field Sparrow, Cowbird, Barn Swallow, Kingbird, Vesper Sparrow, Ruby-throated Hummingbird, Purple Martin, American Goldfinch, Baltimore Oriole, Flicker, Horned Lark, Red-headed Woodpecker, Red-tailed Hawk, Semi-palmated Sandpiper, Cape May Warbler, Blackburnian Warbler, Chimney-Swift, Wood Pewee, Yellow Warbler, Black-throated Green Warbler, Brown Creeper, Downy Woodpecker, Myrtle Warbler, White-breasted Nuthatch, House Wren, Parula Warbler, Winter Wren, Cooper's Hawk, Veery, Sharp-shinned Hawk, Brown Thrasher, Blue Jay, Ovenbird, Sparrow Hawk, Red-winged Blackbird, Golden-crowned Kinglet, Wood Thrush, Bank Swallow, Cliff Swallow, Swamp Sparrow, Phoebe, Redstart, Magnolia Warbler, Maryland Yellow-throat, Black and White Warbler, Killdeer, Marsh Hawk, Crested Flycatcher, Red-eyed Vireo, Canada Goose, Nighthawk, Whip-poor-will.

The total of 66 species was recorded. I also have recorded that 50 species have built 196 nests on our farm of 200 acres to date.—JAMIE M. BEATTIE, (age 14 years), *Kerwood, Ontario, Canada.*

[This is a good record also but would be better if the time spent in the field had been given and if the birds had been arranged in the order of the A. O. U. check-list which is followed by most bird books.—A. A. A.]

The Audubon Societies

EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, President

Address all correspondence, and send all remittances, for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City. Telephone, Columbus 7327

T. GILBERT PEARSON, <i>President</i>	
THEODORE S. PALMER, <i>First Vice-President</i>	WILLIAM P. WHARTON, <i>Secretary</i>
FREDERIC A. LUCAS, <i>Second Vice-President</i>	JONATHAN DWIGHT, <i>Treasurer</i>
SAMUEL T. CARTER, JR., <i>Attorney</i>	

Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

\$5 annually pays for a Sustaining Membership
\$100 paid at one time constitutes a Life Membership
\$1,000 constitutes a person a Patron
\$5,000 constitutes a person a Founder
\$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

A SPLENDID GIFT FOR BIRD-PROTECTION

Mrs. Grace Rainey Rogers, of New York City, has given to the National Association of Audubon Societies a tract of approximately 26,000 acres of marsh-land situated in Vermilion Parish, Louisiana, for the purpose of creating and maintaining a wild-life sanctuary as a memorial to her brother, the late Paul J. Rainey.

Mr. Rainey, who had long been known as a big-game hunter, explorer, and photographer, died at sea, September 18, 1923, while on his way to Cape Town for another expedition in quest of motion pictures of African wild birds and animals.

Mrs. Rogers' splendid gift, for the cause of wild-life protection, constitutes two-thirds of the territory formerly known as the Rainey-McIlhenny hunting preserve. It follows closely the western line of the State Wild-Life Refuge, and the southeastern extremity reaches a point a short distance from the Marsh Island Refuge. On the property is situated a hunting lodge and warden's quarters. Much of the 40 square miles contained within these boundaries is ideal wintering-grounds for wild fowl.

Mrs. Rogers also has provided the Association with funds for the purchase of a patrol

boat, employment of a warden, erection of signs, and other incidental expenses in connection with the development and upkeep of the property.

It is planned to engage annually in the planting of wild cereals and tubers which constitute the chief food of marsh Ducks. The other large wild-fowl refuges in the neighborhood are without this last advantage and reports received from time to time indicate a great and growing scarcity of Duck-food in those regions. Every effort within our means will be made to render the 'Paul J. Rainey Wild-Life Sanctuary' of the highest attractive value to the vast numbers of wild fowl which use the Louisiana coast marshes as a winter home.

To insure the most effective warden service, the Association has completed arrangements with the United States Government for the appointment of an officer by the Bureau of Biological Survey, who will constantly be in charge.

Mr. John P. Holman, representing the Association, took possession of the property late in June, and at the present writing is still there overseeing the planting of Duck-foods.

CAMPAIGNING IN PANAMA AND CUBA

By T. GILBERT PEARSON

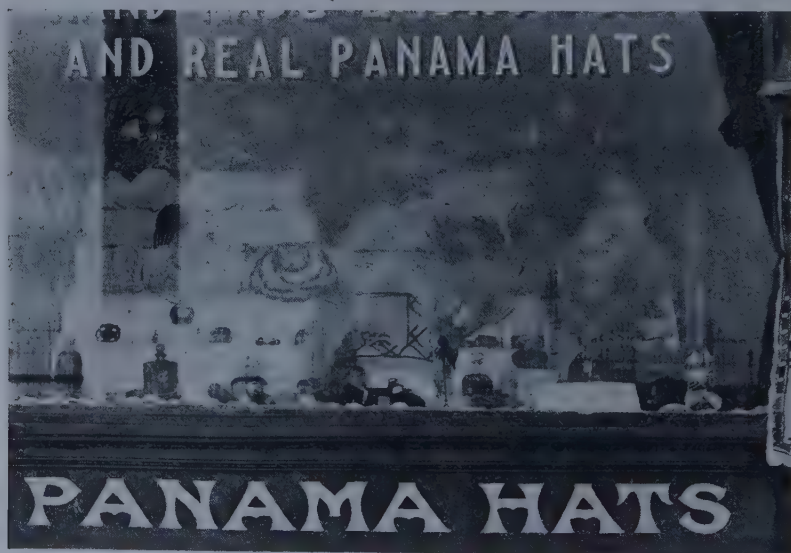
With Photographs by the Author

The republic of Panama, 500 miles in length and averaging about 80 miles in width, is an ideal land for the man who desires to kill wild life without restraint. This country does not possess one law for the protection of any form of wild-bird or animal life found within its borders. That is to say, there is no limit to the number one may kill; there are no closed seasons on shooting; there are no restrictions against shooting animals over jack-lights at night. There is open sale for the bodies of all forms of birds and animals if anyone wishes to sell or purchase. Live animals may be caught; live birds may be trapped and sold in the markets at pleasure. This lack of restriction applies not only to the birds resident in the region, but likewise is applicable with equal force to the Snipe, Sandpipers, Plovers, Ducks, and other birds that go there in winter from the United States and Canada.

In the capital city of Panama and the town of Colon there are displayed large quantities of the plumes of Bird-of-Paradise and Heron aigrettes. Upon inquiry of dealers in these

commodities I was advised that nine-tenths of the feathers sold are smuggled into the United States by American tourists, and especially by officers of the United States Navy, whose baggage it seems is not inspected when they return to their own country. I was in Panama in April, 1924, just before the Pacific Fleet left the Canal for California waters. I saw men wearing uniforms of the United States naval officers purchase aigrettes and carry them out of the shops in their hands.

Early one morning, with Mrs. Samuel D. Sturgis, I visited the wild-bird and animal market. Stall-keepers were sweeping out the bodies of dozens of brilliantly colored Finches, little Love Birds, and others that had perished during the night in the cramped and over-crowded pens and cages of the market. I do not refer to ordinary caged birds, born and reared to restrained environment, but I am speaking of wild birds recently trapped or netted in their native jungles and brought to perish in the hot and seething markets of the capital city.



SHOP WINDOW IN PANAMA IN WHICH ARE EXHIBITED NUMEROUS PARADISE PLUMES AND AIGRETTES



IN THE VILLAGE OF PACORA, TYPICAL OF THE NATIVE PANAMANIAN TOWNS

The average native Panamanian possesses little if any interest in wild birds or animals other than in killing and eating them, or to a small extent having them in cages.

Some little interest, however, recently has become manifested, and early this year reached definite expression when the Rotary Club of the City of Panama, composed of Americans, Panamanians, and others, appointed a committee, under the chairman-

ship of Capt. Elliott T. Brown, to see if some restrictive measures on the killing of wild life could not be secured. About the same time Governor Morrow, of the Panama Canal Zone, appointed a committee with J. R. Strauss as chairman. It was asked to report on the advisability of changing some of the regulations protecting birds in that narrow strip of United States territory which bisects the republic of Panama.



BROWN PELICANS SWARMING ABOUT FISHING-BOATS IN THE HARBOR OF PANAMA CITY



TROPICAL RESEARCH LABORATORY ON THE ISLAND OF BARRO COLORADO,
GATUN LAKE, PANAMA CANAL ZONE

The island is a Wild-Life Reserve and station for the study of tropical life. Established through the efforts of the Institute for Research in Tropical America



SMALL SECTION OF A VAST ASSEMBLY OF CORMORANTS IN TREES
ALONG THE BANKS OF THE BAYANO RIVER, CUBA



A FLOCK OF FEEDING FLAMINGOES ON ISLA TURIGUANO, CUBA

Upon invitation of these two committees, I sailed for Panama on April 2, 1924, for the purpose of studying the conditions and consulting with them on the subject of the duties which they had undertaken.

To get some idea of the wild life in the jungle, a number of days were spent along the Bayano and Pacora Rivers and their tributaries as the guest of Capt. Elliott T. Brown. An ornithologist who enters a tropical jungle for the first time naturally has in store for him thrills without number. Every whistle every song, every cry of a wild bird or animal, was new, and days were spent running down strange noises and finding what produced them. For several days I was mystified by sounds that resembled nothing so much as the striking together of pebbles. In the end it was discovered the noise was produced by the dainty little Red-capped Manakin, a bird of velvety black plumage and ridiculously short tail. Notes that seemed to issue from a flock of Turkey hens proved to be those produced by Woodhewers, birds about the size of a Yellow-bellied Sapsucker and closely resembling a Brown Creeper. The soft *whoo-whoos* often heard in the stillness of the noonday heat were given by the Motmots sitting crosswise of a limb, slowly swaying their long tails from side to side, like the pendulum of a clock. There was the whistle of a Black Kite, the shrieks of the Guan, locally called 'little turkey,' and the peculiar

alarm-notes of the Gallo-de-Monte (hen of the mountains) a bird very similar in size with the great Partridge of western Europe, but which frequent the forests rather than open fields.

Here and there in the openings were large trees from whose upper limbs suspended the great $3\frac{1}{2}$ -foot nests of the Oropendola, and the brilliant birds flying about them suggested nothing so much as giant Orioles. There were two Kingfishers, one much larger than the common Belted Kingfisher at home and another much smaller. There were Egrets, Yellow-crowned Night Herons, White Ibises, and thousands on thousands of Cormorants. In the evening Parrots would come—hundreds of Green Parrots, always flying in pairs and constantly shouting their hoarse notes. Toucans with ridiculously large, gorgeously painted bills were much in evidence. Along the coast were worlds of Brown Pelicans, Man-o'-War Birds and Boobies, and many were found on the islands in the Panama Bay, where they appear to breed.

Dr. Belisario Porras, president of the republic of Panama is widely reputed to be an honest, wise, and greatly beloved executive who is deeply concerned in the advancement and development of his country. In company with Dr. James Zetek, who is the representative of the United States Bureau of Entomology in the Canal Zone, I had the

pleasure of visiting Dr. Porras and discussing with him problems in connection with the wild life of Panama. At his request, before leaving the territory, I made certain formal recommendations for laws that would at least put an end to some of the more apparent unwise methods now employed by the Panamanians in their relation to the wild life.

In an effort to lay plans for crystallizing and developing local interest in bird-protection, illustrated lectures were given in the club-houses at Balboa and Colon, and at a

subsequent gathering in the high school at Balboa plans were matured for organizing an Audubon Society in the Canal Zone.

Upon returning from Central America a week was spent in Cuba. On the north coast of this island, some 300 miles from Havana, a search was made for Flamingoes, Mr. E. J. Barker, of the Turiguano Development Company, having advised that these splendid birds were to be found in this neighborhood. Through his courtesy a launch and men were secured by means of which during the next



A PANAMANIAN HOLDING A NEST OF THE OROPENDOLA



SECTION OF A BREEDING COLONY OF MAN-O'-WAR BIRDS ON A
SMALL KEY NEAR CAYO COCO, CUBA

few days Isla Turiguanó, Cayo Coco, and the California Islands were visited, on all of which Flamingoes were found. About 1,800 in all were counted on the different bars and shallow lagoons. These birds were not found nesting although three old breeding-places were visited.

Of recent years it has been the custom of the natives to raid the breeding colonies of Flamingoes and either kill and salt down the bodies of the young, or carry them alive in boats to the villages on the mainland where they are herded through the streets and sold for food.



ON AN OLD NESTING-SITE OF FLAMINGOES, CAYO COCO, CUBA

The man shown here headed a crew that took 1,500 young Flamingoes from this island for food in the year 1922

In addition to the gorgeous Flamingoes, other interesting birds were found breeding, such as Snowy Egrets, White Ibis, and Man-o'-War Birds.

After careful study of the situation it became apparent that the provisions of the Audubon Law which were adopted in Cuba some years ago during American occupation should be sufficient to extend protection to

the Flamingoes, but whether our carefully laid plans to induce the Government to take active measures to preserve the birds have materialized has not yet been reported.

This trip of campaigning for bird-protection in Panama and Cuba was made financially possible through the generosity of one of the Association's loyal friends and members, G. Lister Carlisle, Jr.

THE YEAR'S WORK WITH CHILDREN

The fourteenth fiscal year of the Junior Department of the National Association of Audubon Societies came to an end on June 1, 1924. The year was marked by increased interest on the part of local workers throughout the country, who, realizing that the exceptional offer which the Association was able to make to teachers and pupils should be widely brought to the attention of school authorities, busied themselves in interesting schools in the formation of Junior Audubon Clubs.

Never in our history have so many volunteer workers come forward to assist in this effort, and one result of their activities is shown in a larger total enrollment of children in these bird-study groups than has ever been recorded during any previous year. Equally important was the fact that from the home office we were fortunate in being able to stimulate friends in contributing more largely to the support of the work than heretofore. It should be borne in mind that while a Junior Member pays a fee of 10 cents, it costs the Association 20 cents to handle the work of manufacturing and delivering the material furnished each child.

Bird-workers throughout the country continue to express to us their belief that this is the most important effort ever undertaken by this Association or any other institution for the future of bird-protection. The influence undoubtedly is very large, and in this connection it may be well to mention that since the beginning of this Department we have received Junior fees from 2,438,039 children. Just how many of these joined clubs two or more years we are unable to report, but certainly a million or perhaps a

million and a half young people have received their first serious impressions of the beauty and importance of bird-study through the Junior Audubon plan.

Our generous, unnamed patron has again furnished \$10,000 toward the expenses the coming year, and about \$11,000 will be realized from the income of the Endowment Fund which he gave to the Association two years ago.

To carry the work the coming school season on a scale commensurate with that of the past year it will be necessary to raise an additional sum of \$9,000 or \$10,000. Of this, at the present time, about \$6,000 is still needed.

Should this statement be read by anyone who feels moved to assist in this extremely important work, such assistance as he or she may feel disposed to render would be most thankfully received and expended for the purpose designed by the donor. Remember, a contribution of \$100 means the enrollment of 1,000 children into bird-study clubs. A thousand dollars would insure instruction in simple ornithology and bird-protection being given to 10,000 children.

The following table shows the distribution of the Junior Clubs and the enrollment of Junior Members for the year ending June 1, 1924.

States	Clubs	Members
Alabama	48	1,500
Arizona	7	209
Arkansas	21	816
California	388	16,702
Colorado	70	2,501
Connecticut	379	14,419
Delaware	18	629
District of Columbia	17	635
Florida	52	3,517

States	Clubs	Members
Georgia	72	2,394
Idaho	13	497
Illinois	255	10,393
Indiana	185	7,252
Iowa	133	4,325
Kansas	54	1,921
Kentucky	35	1,433
Louisiana	23	750
Maine	29	1,146
Maryland	74	2,735
Massachusetts	299	12,214
Michigan	160	6,737
Minnesota	219	8,840
Mississippi	10	410
Missouri	108	4,289
Montana	22	672
Nebraska	65	2,620
Nevada	7	245
New Hampshire	34	1,370
New Jersey	260	11,454
New Mexico	2	77
New York	1,230	56,015

States	Clubs	Members
North Carolina	34	1,340
North Dakota	24	894
Ohio	697	26,581
Oklahoma	31	1,343
Oregon	60	3,550
Pennsylvania	969	42,776
Rhode Island	5	161
South Carolina	105	4,085
South Dakota	12	516
Tennessee	20	831
Texas	59	2,672
Utah	25	918
Vermont	14	509
Virginia	69	2,622
Washington	45	2,009
West Virginia	58	2,187
Wisconsin	166	6,991
Wyoming	9	276
Canada	450	15,554
Hawaii		7
Totals	7,141	294,539

NATIONAL CONFERENCE ON OUTDOOR RECREATION

A Conference to study from various angles the subject of outdoor recreation in the United States met in Washington, May 22-24, 1924, at the call of President Coolidge. The work of assembling the Conference and planning for its activities was, by Mr. Coolidge, placed in the hands of the following members of his official family: Hubert Work, Secretary of Interior; Henry C. Wallace, Secretary of Agriculture; John B. Weeks, Secretary of War; Herbert Hoover, Secretary of Commerce; James J. Davis, Secretary of Labor; and Theodore Roosevelt, Assistant Secretary of the Navy. Colonel Roosevelt served as the Executive Secretary and presided at all the sessions.

Delegates from 128 National organizations interested in educational, scientific, conservational, social, and religious matters assembled in Washington for the Conference.

Various papers and addresses of interest to the members of the Audubon Society were presented. Among these on the subject of dealing with wild life were those given by Dr. Frank M. Chapman and the President of the Association, who also exhibited motion pictures made by William L. and Irene Finley.

The real work of the Conference was assigned to eighteen committees who were asked to prepare reports on the present

conditions and needs in the field which they represented. One of these committees was to deal with bird-life. The members of the committee consisted of the following: Dr. Charles C. Adams, Paul Bartsch, Mrs. Vernon Bailey, Dr. Frank M. Chapman, Miss Heloise Meyer, H. C. Oberholser, Dr. T. S. Palmer, and T. Gilbert Pearson, Chairman.

Reports of these various committees were submitted to the General Committee on Resolutions, which in turn prepared from these reports a final draft that in the form of resolutions was adopted by the Conference at the closing session. This official report in reference to birds was as follows:

1. That the greatest problem in connection with wild-bird conservation today is the provision of an effective system of education on a scale greater than any hitherto attempted and enlisting the assistance of all available agencies, including the press, the screen, and the radio;

2. That the principal practical problems of the immediate future are better endorsement of existing laws, strengthening the statutes in certain states and constant watchfulness against loss of ground already won;

3. That the importance should be emphasized, in the administration of bird laws, of basic surveys and inventories, of consideration of local conditions in the regulation of bag-limits, of sanctuaries in connection with

all public shooting-grounds, and of expert personnel.

It was decided that the importance of this work of correlating all organized interest, both of Government departments and citizen

organizations, should by all means be continued and a Committee, of which Chauncey J. Hamlin, of Buffalo, N. Y., is Chairman, was appointed to perfect and carry forward the organization.

UPPER MISSISSIPPI RIVER FISH AND GAME REFUGE BILL

There was introduced in Congress during the early days of the last session a bill intended to authorize the creation of a Fish and Game Refuge in the overflow lands extending along the Mississippi River from Rock Island, Ills., to Wabasha, Minn.—a distance of approximately 300 miles.

This measure was prepared and introduced by the Izaak Walton League, a conservation society now about two years old, with headquarters in Chicago. It was the purpose of the sponsors of this measure to establish areas where wild fowl during migration might feed and rest in comfort without being continually harried by gunners. It was also desired to preserve many shallow-water areas from threatened drainage for the very useful purpose of continuing certain very extensive spawning-grounds for fresh-water fishes, especially the black bass that swarm in that territory.

The campaign was directed by the President of the League, Will H. Dilg. He lived in Washington all winter directing his energies to arousing the interest and support of the Senators and Congressmen. The numerous branches of the Izaak Walton League actively seconded these efforts and

many others interested in conservation gave the measure their support.

When the hearing on the bill was held before the House Committee having the matter in charge, the President of the National Association of Audubon Societies was pleased to have the opportunity of being one of those present to urge favorable consideration of this important measure. Just before Congress adjourned during the first week in June, the Upper Mississippi bill, after some amendments, was passed and promptly received the signature of President Coolidge.

The new law contemplates the purchase of lands by the Government for refuge purposes, provided this can be done within a cost of \$1,500,000. As the bill passed the session too late for subsequent action by the Committee on Appropriations, the matter will have to lie over for the present until Congress convenes in December, 1924, when funds will be asked for in an appropriation bill.

The successful passage of a bill of this character during the recent turbulent session of Congress is a striking tribute to the energetic work of Mr. Dilg and the Izaak Walton League.

AN IDEAL FEEDING-STATION FOR BIRDS

Among the bird-feeding stations erected on the campus of the Michigan State Normal School, at Ypsilanti, there is one which is undoubtedly dearly loved by every sensible bird of the neighborhood. Mr. Walter E. Hastings, Vice-President of the Michigan Audubon Society, who has kindly forwarded to the Association the accompanying photograph, has this to say concerning it:

"That the birds may feel no trepidation while in the precincts of the little sanctuary,

a cabin has been built to conceal the observers, and this is approached behind a fence of quite the tallest cornstalks ever grown outside of seed catalogues. A liberal planting of spruce will render this screen unnecessary after a time.

"Entering the cabin one finds two rows of windows with sliding shutters let into the east, west, and north walls; if standing, one uses the upper windows; if sitting on the neat gray benches one looks out on the feeding-

grounds through the lower tier of windows. The largest of the feeding shelters is semi-circular and opens toward the south-west, so that no snow ever penetrates its deep recesses, and the low, sloping roof is covered with many layers of boughs, excelsior, corn-husks, and leaves. One likes to imagine little huddled groups of birds eagerly feeding within while a driving snowstorm rages without.

"Perhaps a cafeteria more nearly describes the feeding-station, for a wide assortment of tempting bird-food is displayed, and Mr. and Mrs. Bird have simply to make the rounds and take their choice. Holes have been bored into dead limbs and stuffed with suet; cocoanuts are treated similarly.

"Among the many feeding-boxes and shelves are some ingenious novelties. One is on the order of the well-known Audubon feeding-shelf. It is a revolving shelf fastened to a stout post with a pivot. The ends project like wings beyond the shelf. These are caught by the wind and obligingly turned, with the result that the birds are always protected against the wind as they feed. Receptacles of close-meshed wire contain weed seed, which sifts down gradually out

of the opening at the bottom and prevents waste. The weed seed is fanned out from clover seed and is supplied free by dealers in grain. It is greatly fancied by Cardinals, Song and Tree Sparrows. Cracklings are supplied by country students. The range of winter bird-food is very wide, and corn, wheat, oats, bread-crumbs, meat-scrap, cracked nuts, sunflower seed, wild grapes, rice, and thorn apples are favorites of the birds and easy to procure.

"The prettiest device is the berry-shelf. To little upright sticks are tied bittersweet, black haws, poison ivy, and goldenrod galls (enlargements along the stems where certain flies have laid their eggs). For the shyer and more suspicious visitors a trolley-shelf has been designed. It is placed first about 125 feet from the cabin and about 20 feet above the ground, and after birds begin to use it, the shelf is at intervals drawn near the house. That the bold and ubiquitous English Sparrow shall not be the sole beneficiary, one end of the feeding-shelf is fastened to a spring, which discourages the Sparrows from using it.

"Not only food, but warm protection against wind and cold is afforded. There is a



A REMARKABLY ATTRACTIVE FEEDING-STATION FOR BIRDS ON THE CAMPUS OF THE MICHIGAN STATE NORMAL SCHOOL AT YPSILANTI

Photographed by Walter E. Hastings

brush-heap 8 feet high and 15 feet in diameter in which birds seek protection from the wind.

"Leaving the cabin and passing through a narrow gateway into the feeding-grounds, the layout of the station is apparent. It is an irregular bowl with low hills affording such effectual shelter that it is actually about 5 degrees warmer here than elsewhere on the campus. When the plantings of sumac, elderberries, barberries, blackberries, juniper, arborvitæ, spruce, and white and Austrian pine shall have grown larger, the aspect will be even more rustic and wild.

"The project of a feeding-station was suggested by R. E. Rodock, instructor in the Natural Science Department, to his zoölogy class in the Normal High School, and is a tangible manifestation of the enthusiasm which he aroused in his students toward the

birds. The cabin is 5 by 6 by 6½ feet, and the lumber used in its erection represents the only outlay of money that the college made. The students drew the plans and contributed labor, tools, and further material. Their interest never flags. In the record-book are their observations of the Red-breasted Nuthatches, Juncos, Blue Jays, Sparrows of many kinds, Cardinals, Mourning Doves, Chewinks, Cedar Waxwings, Robins, and others that have eaten the 800 pounds of food that have been served the birds. Mr. Rodock states, with considerable satisfaction, that as yet it has been found feasible to leave the cabin open at all times, and he finds it particularly gratifying that already seven more stations have been established by the students at their homes, thus spreading the gospel of bird-protection in the community."

THE NEW ANTI-OIL POLLUTION LAW

In these columns attention has from time to time been called to the growing menace of oil pumped overboard from 'tankers' and other oil-burning vessels. Oil thus discharged, usually with water ballast, gums the plumage of sea-fowl until they are no longer able to fly or dive. Thousands annually starve for this reason and are washed ashore in a dead or dying condition along our coasts. The condition of the American Eider Ducks has become especially pitiful. All the way from Long Island to Nova Scotia, which constitutes a very important part of their winter range, thousands are killed by the oil-polluted waters. Ducks, Gannets, Murres, and many other sea-birds have been suffering a like fate.

This situation exists not only along the coasts of North America, but over much of the regions of the globe. In the spring of 1922 the President of the Association, while in London, had the pleasure of coöperating with bird friends there in helping pass an oil-pollution bill pending in the British Parliament. England thus became the first country in the world to regulate the oil nuisance. By the provisions of this bill, captains of vessels are not permitted to discharge oil at random in the territorial waters of England. The

government provides barges or other receptacles for this purpose.

A bill of the same general character, pending in the United States Congress at that time, did not pass, but the fight has been continued under the leadership of an organization formed for the purpose, and the Audubon Association, as well as many other societies and individual bird-lovers, have given the various bills in Congress their earnest support. On June 4, 1924, shortly before Congress adjourned, a modification of the two oil-pollution bills then pending was passed and signed by President Coolidge on June 7. This law, while not all that could be asked for, will restrict vessels from dumping oil overboard in our territorial waters. Unfortunately, the measure refers only to floating craft, and was not extended to include oil-loading stations situated on the water-fronts.

With England and America already formally in line in the matter of controlling this nuisance, which has been responsible not only for the destruction of a great amount of bird-life, but for spoiling bathing-beaches, increasing fire hazards, etc., the National Coast Anti-Pollution League is looking toward international action that will prohibit the discharge of oil from vessels while on the high seas.



YELLOW-BELLIED SAPSUCKER
From drawing by Robert J. Sim

NEW LIFE MEMBERS

Fee, \$100

Enrolled from May 1 to July 1, 1924

Alvord, George B.	Klemm, Miss E. R.
Baetjer, Mrs. F. H.	Knight, Mrs. C. Prescott
Bartholomae, Hugo J.	Lang, Henry
Beckwith, Sidney F.	Lester, Miss M. Elizabeth
Borden, Mrs. Ellen L.	Lincoln, Mrs. Geo. H.
Boyd, Mrs. J. C.	Lodge, Mrs. Edwin
Bradley, E. R.	McKeon, Mrs. John C.
Brady, Mrs. Nicholas F.	McMillan, F. W.
Brooks, Miss Bertha G.	Morman, Mrs. Samuel A.
Byers, E. M.	Murphy, Franklin
Carter, Mrs. John W.	Neeb, Mrs. H. A.
Chase, Alfred E.	Owen, Miss M. E.
Clapp, Miss Katherine D.	Parmelee, Robert M.
Clark, Mrs. W. A.	Pennock, Mrs. A. J.
Clauder, Rudolph	Pharo, Miss Elizabeth W.
Cross, Whitman	Preston, Mrs. L. B.
Crump, Walter Gray, Jr.	Price, Mrs. Clarence
Day, Mrs. Joseph P.	Price, L. B.
Deerow, Marion L.	Proctor, Frederick T.
Despard, Mrs. C. L.	Quigg, Mrs. Lemuel E.
Downes, John I. H.	Rea, Mrs. Samuel
DuBois, Miss Ethel	Reed, Mrs. John H.
Fearon, Charles	Roth, Max J.
Fieldhouse, Mrs. John	Seyfert, Mrs. William
Forrest, Mrs. Geo. D.	Shedd, Mrs. J. G.
Foulk, Theo.	Simes, Mrs. William
Fowler, Mrs. Mary M.	Staats, William R.
Fry, Miss Fredericka	Stephens, Mrs. T. H.
Genung, Alfred V. C., Jr.	Stillman, Miss Clara F.
Goler, Mrs. Frank H.	Swan, James A.
Grandin, Mrs. G. W.	Swan, Mrs. James A.
Greims, Mrs. Herbert S.	Thomas, Miss Gertrude S.
Hall, Miss Susan E.	Tiedtke, Ernest
Hambach, Albert	True, Mrs. E. C.
Hill, Mrs. Thos. W.	Wearne, Harry
Holton, Mrs. Chas. W.	Whitney, Caspar
Hooker, Mrs. Katharine	Wickham, Mrs. D. O.
Hotchkiss, Mrs. E. W.	Williams, Mrs. Geo. R.
Jackson, Miss Mary L.	Wilson, Miss Celia Sibley
Jenks, Miss Josephine	Zinsmeister, Mrs. Elsie A.

NEW SUSTAINING MEMBERS

Fee, \$5 Annually

Enrolled from May 1 to July 1, 1924

Allen, Frank G.	Beck, James A.
Allen, Mrs. Katharine L.	Beeman, Mrs. E. R.
Arnold, Mrs. C. W., Jr.	Bemis, H. C.
Auchincloss, Mrs. C. C.	Bend, C. M.
Austin, Lawrence H.	Bennett, Miss Harriet
Ayer, Mrs. F. Wayland	Bermes, Daniel
Bachman, Mrs. M. K.	Berger, W. B.
Bailey, Oliver D.	Bergman, S. F.
Bassett, Miss Carolyn Wells	Bergmann, Mrs. C. H.
Baughman, Mrs. S. E.	Bertenbach, Miss Jennie Y.
Beech, George	Berwanger, Albert B.
Beach, Irvin H.	Bickelhaupt, George B.
Beatty, Miss Valerie L.	Blatchford, Mrs. Samuel A.

NEW SUSTAINING MEMBERS, continued

Boeringer, Geo. W.
 Bogert, John J.
 Boissevain, Mrs. A. Magee
 Bonwit, Paul J.
 Bregenzer, Otto
 Brower, Mr. & Mrs. E. C.
 Brown, R. E.
 Buchanan, James A.
 Buckner, Thos. A.
 Burnham, Miss Bertha A.
 Burrell, D. H., Jr.
 Busch, N. J.
 Campbell, Dr. Don M.
 Canby, Henry M.
 Chambers, William
 Chester, Hawley T.
 Chisolm, B. Ogden
 Chisolm, Mrs. B. Ogden
 Church, Geo. H.
 Clark, Charles Hopkins
 Clark, Mrs. J. William
 Classon, Chas. H.
 Clippert, Geo. H.
 Cobb, B. C.
 Comings, Charles L.
 Conner, Mrs. W. A.
 Cook, Mrs. George R.
 Cook, Mrs. Madeleine Ruth
 Cravath, Miss Agnes
 Curry, T. Minor
 Davis, Walter G.
 Day, Herbert W.
 deForest, Mrs. Johnston
 Despard, Douglas C.
 Dommerich, Mrs. Otto L.
 Droop, E. H.
 Drummond, Dr. P.
 Ducharme, George A.
 Dyett, Herbert T.
 Eager, Miss Harriet
 Earle, Henry M.
 Eder, Mrs. J. M.
 Edey, Miss Louise
 Ehler, Wm. H. J.
 Eisig, Miss Kate
 Elser, Mrs. Maximilian
 Estricher, Henry
 Ettlinger, Louis
 Ewing, Mrs. Thomas
 Felix, Dr. Lorenz
 Ford, F. S.
 Fossume, Finn L.
 Foster, Miss Bessie C.
 Frew, Mrs. W. N.
 Frick, Mrs. W. H.
 Gibbons, John
 Gilfillan, Mrs. J. Gordon
 Gillchrest, L. B.
 Gillett, Mrs. H. W.
 Gillman, Dr. Robert W.
 Gimbel, Mrs. Louis M.
 Goodfriend, Meyer
 Goss, Mrs. Sam G.
 Gotshall, Mrs. C. J.

Gottlieb, Dr. Charles
 Greene, Russell de C.
 Hamilton, Mrs. Morgan
 Hamilton, H. R.
 Harn, O. C.
 Harris, Victor
 Harris, William P., Jr.
 Hart, Roswell R.
 Hazard, Rowland
 Heller, Edgar W.
 Hemenway, Myles
 Hengerer, Mrs. J.
 Henry, Mrs. W. T.
 Hersch, Herman
 Hessert, Gustav
 Heyman, Miss Jennie
 Hill, Mrs. Miner C.
 Hillman, Wm. O.
 Hilton, Henry H.
 Hoen, Harry M.
 Holt, Mrs. Henry
 Hoover, Frank K.
 House, Mrs. Wallace Belding
 Hubbard, Mrs. W. H.
 Hunt, Harry E.
 Hurd, Miss Frances A.
 Ireland, Mrs. J. N.
 Iselin, Miss Caroline L.
 Isom, W. H.
 Jaffray, C. T.
 Jenkins, Miss Elizabeth
 Johnson, Mrs. F. Coit
 Jones, Wm. B.
 Jordan, G. Gunby
 Joyce, David G.
 Keep, Chauncey
 Kennard, Miss Charlotte
 Kincaid, R. E.
 Kite, A. E.
 Kneeland, Mrs. Stillman F.
 Koshland, Daniel E.
 Lang, W. A.
 LaPlace, Wm. G.
 Larkin, Yoakum
 Lavino, Edward J.
 Lawrence, Mrs. W. W.
 Lehrenkrausse, Julius
 Leslie, Robert P.
 Leubuscher, Frederic Cyrus
 Lewine, Hiram S.
 Lewis, W. E.
 Leyboldt, Miss Josephine
 Ligget, Miss Helen L.
 Litch, Mrs. John T.
 Lueking, Mrs. Dean
 Lummis, John M.
 Lyeth, John C.
 McAlpin, Miss Betty Allan
 McAlpin, Geo. S.
 McCaffray, Mrs. Walter P.
 McElheny, Victor K.
 McFarland, Dr. Warren C.
 McIntosh, Mrs. Russell L.
 McVeigh, Chas. S.

NEW SUSTAINING MEMBERS, continued

- Matthes, Max
 Mattis, Geo. M.
 Meredith, Howard G.
 Merhling, Edward A., 2d.
 Merritt, Alfred
 Metcalf, Mrs. Manton B.
 Meyers, H. N.
 Miller, Wm. P.
 Morley, Dr. W. H.
 Munn, Orson D.
 Newcombe, Mrs. Charles M.
 Newton, F. Maurice
 Nikoloff, S.
 Nourenburg, Miss Laura
 O'Brien, Mrs. M. Hubert
 Ogden, Mrs. J. E.
 Olcott, Miss Jean
 Olcott, Mr. & Mrs. Walter
 Owen, Rev. W. H.
 Palmer, Lowell M., Jr.
 Paris, Mrs. James H.
 Parker, Mrs. Emma S.
 Parsons, Mrs. W. B.
 Pausner, Mrs. Charles
 Peltier, Frederic Desnoyers
 Penn, William
 Perkins, Frank
 Perrie, C. P.
 Pfeil, William A.
 Phillips, Miss Harriet S.
 Phillips, Mrs. Robert W.
 Pickhardt, William Paul
 Pigott, Francis E.
 Pike, Mrs. H. H.
 Pinkney, Mrs. J. H.
 Poor, Mrs. Charles Lane
 Pou, Dr. Robert Edward
 Powell, Mrs. Rose
 Powers, Barnard
 Pratt, Harold I.
 Pratt, Mrs. Harold I.
 Ramage, Samuel Y.
 Read, Newbury Frost
 Ream, Mrs. Norman P.
 Remington, F.
 Rhodes, Miss Margaret
 Rich, Charles A.
 Richards, E. G.
 Richard, Oscar L.
 Rippin, Mrs. Jane Deeter
 Robeson, Irving S.
 Rohr, Otto R.
 Roosevelt, Mrs. Hilborne L.
 Rose, Hudson P.
 Ross, Dr. Worth
 Runyon, Miss Jane Allen
 Russell, E. A.
 Ryder, Geo. H.
 Saunders, William L., 2d
 Schlafly, L. A.
 Schultz, Mrs. Emmet
 Scofield, Miss Marion
 Seaman, Harold H.
 Selyman, Edwin R. A.
 Shapiro, Simon
 Sibley, E. H.
 Sicard, Dr. Montgomery H.
 Simmons, Mrs. E. deForest
 Sloane, Mrs. John
 Smith, Charles Green
 Smith, Donald W.
 Smith, Robert S.
 Soule, Frank C.
 Speer, Peter M.
 Spingern, Edward D. W.
 Standish, James D., Jr.
 Stellwagen, A. C.
 Stevens, Dr. Rollin H.
 Stickell, Howard K.
 Stier, Dr. J. J.
 Stoddard, Mrs. Ralph
 Stoll, Mrs. Charles H.
 Stowell, Mrs. Harley L.
 Sullivan, Walter F.
 Swan, Miss Helen A.
 Swenson, Mrs. S. A.
 Sydney, B.
 Thibaut, Miss Helen C.
 Thompson, A. W.
 Thompson, Mrs. Lewis S.
 Thompson, Mrs. R. H.
 Thorn, J. C.
 Tilghman, Frederic B.
 Tompkins, Dr. Walstein M.
 Townley, Calvert
 Tracy, Ernest B.
 Upham, Charles L., Jr.
 van Bueren, Mrs. Michael M.
 Vonnoh, Mrs. Robert
 Voss, Miss Della R.
 Walker, H. C.
 Walker, Lewis K.
 Wallace, Harry L.
 Warner, Edward L.
 Warner, Walter
 Webber, J. T.
 Wetzell, Mrs. Thos. J.
 White, F. H.
 Whiting, J. H.
 Williams, Cav. Charles Alvan
 Williams, Heberton, Jr.
 Williams, William H.
 Wilsey, Mrs. Frank D.
 Wilson, Mrs. Cassine G.
 Worcester, Mrs. Nellie K.
 Woodruff, Frank L.
 Young, Eugene L.
 Young, Miss Katherine V.
 Zetek, James



CRESTED FLYCATCHER

Order—PASSERES

Family—TYRANNIDÆ

Genus—MYIARCHUS

Species—CRINITUS

National Association of Audubon Societies